EXHIBIT 1



BUREAU OF CLEAN WATER

Application Type	Renewal	NPDES PERMIT FACT SHEET
Facility Type	Industrial	INDIVIDUAL INDUSTRIAL WASTE (IW)
Major / Minor	Major	AND IW STORMWATER

Application No.	PA0001627
APS ID	774001
Authorization ID	916425

Applicant and Facility Information				
Applicant Name	NRG F	ower Midwest LP	Facility Name	NRG Power Midwest LP - Cheswick Generating Station
Applicant Address	151 Pc	rter Street	Facility Address	151 Porter Street
	Spring	dale, PA 15144-1452	_	Springdale, PA 15144-1452
Applicant Contact	Jill Bud	kley	Facility Contact	Jill Buckley
Applicant Phone	(724) 2	75-1409	Facility Phone	(724) 275-1409
Client ID	14119	5	Site ID	245779
SIC Code	4911,	1222	Municipality	Springdale Borough
SIC Description	Trans.	& Utilities - Electric Services	County	Allegheny
Date Application Rece	ived	February 29, 2012	EPA Waived?	No
Date Application Acce	pted	February 29, 2012	If No, Reason	Major Facility

Summary of Review

On February 29, 2012 GenOn submitted an NPDES permit renewal application for the Cheswick Generating Station (Cheswick). In addition to the generating station, discharges from two associated facilities, LeFever Landfill and Monarch Mine, are included in the existing permit. The application was submitted on time, at least 180 days before the permit expired on August 31, 2012. In December 2012, GenOn merged with NRG and ownership of Cheswick was transferred to NRG.

Cheswick is a 560 MW coal-fired power plant built in 1970 and classified under SIC code 4911 for Electric Services. It is located along the north side of the Allegheny River, approximately 16 miles upstream of the confluence with the Ohio River. The generating station features Flue Gas Desulfurization (FGD) & Selective Catalytic Reduction (SCR) systems to treat sulfur oxide and nitrogen oxide emissions, respectively. The station has a once through cooling system with a design intake flow (DIF) of 375 million gallons per day (MGD) that withdraws from and discharges to the Allegheny River. The facility has two bottom ash ponds (bottom ash recycle pond & bottom ash emergency pond) which contain legacy bottom ash transport water. In 2016, NRG installed a Remote Submerged Flight Conveyor, to handle bottom ash transport water. The conveyor is closed-loop with a 180,000-gallon capacity. Currently, NRG has an agreement with Duquesne Light Company to accept leachate from closed fly ash ponds, and the leachate is pumped into the ash ponds via hyrobin sumps. See Attachment A for site maps.

The discharges at Cheswick consist of 5 outfalls and 7 Internal Monitoring Points (IMPs):

- Outfall 002 Discharge from the Monarch Mine Dewatering Plant (MMDP)
- Outfall 003 Main discharge from the generating station, consisting of 7 IMPs:
 - IMP 103 Boiler blowdown
 - IMPs 203 & 303 Ponds containing bottom ash transport water. These IMPs discharge alternately
 - IMP 403 Coal pile runoff
 - IMP 503 FGD wastewater
 - IMP 603 Miscellaneous low-volume wastes

Approve	Deny	Signatures	Date
X			
		Maria Schumack / Project Manager	December 27, 2017
X			
		Sean M. Furjanic, P.E. / Environmental Program Manager	December 27, 2017

Summary of Review

- IMP 803 combination of IMPs 203, 303, 403, 503 & 603
- Outfall 004 Intake filter backwash
- Outfall 005 Stormwater from the MMDP
- Outfalls 010 & 011 Stomrwater form the LeFever Landfill

Little Deer Creek TMDL

The Little Deer Creek TMDL for Acid Mine Drainage (AMD) was approved by EPA on April 4, 2007. Little Deer Creek is also listed as impaired for turbidity, siltation and flow alterations caused by construction. However, all construction activities occurring at the time of the assessment were completed; therefore, those pollutants were not included in the TMDL.

Outfalls 002, 005, 010 and 011 discharge to segments of Little Deer Creek covered by the TMDL. The TMDL for Little Deer Creek consists of load allocations for four tributaries and three sampling sites along the stream. The point applicable to each of Cheswick's Outfalls is LTDR04. The water quality analysis conducted during the TMDL assessment determined that the measured and allowable metals loadings were equal. Because WQS are met, WLAs for metals were not developed for discharges above LTDR04.

Table C7. TMDL Calculations at Point LTDR04					
Measured Sample Data Allowable					
			LTA		
	Conc.	Load	Conc.	Load	
Parameter	(mg/l)	(lbs/day)	(mg/l)	(lbs/day)	
Al	0.50	23.8	0.50	23.8	
Fe	0.45	21.2	0.45	21.2	
Mn	0.18	8.8	0.18	8.8	
Acidity	0.00	0.0	0.00	0.0	
Alkalinity	156.36	7,417.8			

scharge, Receiving Waters and Water Supply Informa	ation	
Outfall No. 002	Design Flow (MGD)	12.4
Latitude 40° 35' 8.0"	Longitude	-79° 49' 43.00"
Quad Name	Quad Code	
Wastewater Description: Treated Mine Water		
Receiving Waters Little Deer Creek	Stream Code	42289
NHD Com ID 123972685		0.87
Drainage Area 10.69	Yield (cfs/mi²)	
Q ₇₋₁₀ Flow (cfs) 0.1069	Q ₇₋₁₀ Basis	StreamStats/Pollution Report
Elevation (ft) 850	Slope (ft/ft)	
Watershed No. 18-A	Chapter 93 Class.	TSF
Existing Use TSF – Trout Sticking Fishery	Existing Use Qualifier	
Exceptions to Use None	Exceptions to Criteria	
Assessment Status Impaired		
Cause(s) of Impairment Flow Alterations, Metals, Sil		
•	Construction, Subsurface Mir	
TMDL Status Final	Name Little Deer C	creek Watershed
Background/Ambient Data pH (SU)	Data Source	
Temperature (°F) Hardness (mg/L)		
Other:		
Nearest Downstream Public Water Supply Intake	Oakmont Borough	
PWS Waters Allegheny River	Flow at Intake (cfs)	9.2
PWS RMI 13	Distance from Outfall (mi)	~3

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Discharge, Receiving Waters and Water Supply Informa	ation	
Outfall No. 003	Design Flow (MGD)	376
Latitude 40° 32' 12"	Longitude	-79° 47' 39"
Quad Name	Quad Code	
Wastewater Description: IW Process Effluent with EL	G, Noncontact Cooling Water	(NCCW)
Receiving Waters _ Allegheny River	Stream Code	42122
NHD Com ID 123972852	RMI	15.75
Drainage Area 11500	Yield (cfs/mi ²)	
Q ₇₋₁₀ Flow (cfs) 2761	Q ₇₋₁₀ Basis	USGS Stream Gage
Elevation (ft) 734.8	Slope (ft/ft)	
Watershed No. 18-A	Chapter 93 Class.	WWF
Existing Use	Existing Use Qualifier	
Exceptions to Use	Exceptions to Criteria	
Assessment Status Attaining Use(s)		
Cause(s) of Impairment		
Source(s) of Impairment		
TMDL Status	Name	
Background/Ambient Data	Data Source	
pH (SU)		
Temperature (°F)		
Hardness (mg/L) <u>87</u>		
Other:		
Nearest Downstream Public Water Supply Intake	Oakmont Borough	
PWS Waters Allegheny River	Flow at Intake (cfs)	9.2
PWS RMI 13	Distance from Outfall (mi)	2.4

Other Comments: Outfall 003 is a combination of wastewaters from IMPs 101, 203, 303, 403, 503, & 603. The Oakmont Borough Intake is on the opposite side of the river of the outfalls as Cheswick and should not be affected by the discharge.

Discharge, Receiving Waters and Water Supply Inform	nation	
Outfall No. 004 Latitude 40° 32' 8.0" Quad Name Wastewater Description: Intake Screen Backwash	Design Flow (MGD) Longitude Quad Code	0.75 -79° 47' 20"
Receiving Waters NHD Com ID 123972852 Drainage Area 11500 Q ₇₋₁₀ Flow (cfs) Elevation (ft) Watershed No. Existing Use Exceptions to Use	Q ₇₋₁₀ Basis Slope (ft/ft) Chapter 93 Class. Existing Use Qualifier Exceptions to Criteria	42122 15.8 USGS Stream Gage WWF
_ ,,	Name	
Background/Ambient Data pH (SU) Temperature (°F) Hardness (mg/L) Other:	Data Source	
Nearest Downstream Public Water Supply Intake PWS Waters PWS RMI	Flow at Intake (cfs) Distance from Outfall (mi)	

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	nation	
	• • • •	0
	_	-79° 49' 43.0 "
	Quad Code	
Stormwater		
eer Creek	Stream Code	42289
2685	RMI	
	Yield (cfs/mi²)	
	Q ₇₋₁₀ Basis	
	Slope (ft/ft)	
	Chapter 93 Class.	TSF
	Existing Use Qualifier	
	Exceptions to Criteria	
Impaired		
Cause(s) of Impairment Flow Alterations, Metals, Silta		
Abandoned Mine Drainage	e, Construction, Subsurface Min	ing
Final	Name Little Deer C	reek Watershed
	Data Source	
W-4 0		
water Supply Intake		
	_ Flow at Intake (cfs)	
	Stormwater eer Creek 2685 Impaired Flow Alterations, Metals, S Abandoned Mine Drainage	Quad Code Stormwater eer Creek Stream Code (685 RMI Yield (cfs/mi²) Q7-10 Basis Slope (ft/ft) Chapter 93 Class. Existing Use Qualifier Exceptions to Criteria Impaired Flow Alterations, Metals, Siltation, TDS, Turbidity Abandoned Mine Drainage, Construction, Subsurface Min Final Name Little Deer Co

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Discharge, Receiving Water	s and Water Supply Inform	ation	
Outfall No. 010 Latitude 40° 35' 0.0" Quad Name Wastewater Description:	Stormwater	Design Flow (MGD) Longitude Quad Code	0 -79° 50' 0.0"
NHD Com ID 12397 Drainage Area	Little Deer Creek 2685	Stream Code RMI Yield (cfs/mi²) Q ₇₋₁₀ Basis	0.19
Watershed No. 18-A		Eviating Llas Qualifier	TSF
Eventions to Use	Impaired		
Cause(s) of Impairment Source(s) of Impairment TMDL Status	Flow Alterations, Metals, Si Abandoned Mine Drainage Construction, Subsurface N	, Abandoned Mine Drainage, C Mining	onstruction, Construction,
Background/Ambient Data pH (SU) Temperature (°F) Hardness (mg/L) Other:		Data Source	reek Watersheu
Nearest Downstream Public	c Water Supply Intake	Flow at Intake (cfs) Distance from Outfall (mi)	

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Discharge, Receiving Water	rs and Water Supply Inform	nation	
Outfall No. 011 Latitude 40° 35' 0.0" Quad Name Wastewater Description:	Stormwater	Design Flow (MGD) Longitude Quad Code	0 -79° 50' 0.0"
NHD Com ID 1239	to Little Deer Creek 72685	Yield (cfs/mi²)	0.19
Watershed No. 18-A		Chapter 93 Class.	TSF
Exceptions to Use Assessment Status	Impaired	Exceptions to Criteria	
Cause(s) of Impairment Source(s) of Impairment TMDL Status		iltation, TDS, TDS, Turbidity Abandoned Mine Drainage, Community Name Little Deer Community	
Background/Ambient Data pH (SU) Temperature (°F) Hardness (mg/L) Other:		Data Source	Teck Watershed
Nearest Downstream Publi PWS Waters PWS RMI	ic Water Supply Intake	Flow at Intake (cfs) Distance from Outfall (mi)	

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NPDES Permit Fact Sheet Cheswick Generating Station NPDES Permit No. PA0001627

WQM Permits

Treatment Facility Name: Cheswick Generating Station

WQM Permit No.	Issuance Date
0270205	03/17/2016
0277206	10/22/2014
0206202	10/22/2014
0272216	10/17/2014
0271208	10/10/2014
4671021	10/09/2014
0213200	09/06/2013

NPDES Permit No. PA0001627

Compliance History

Cheswick agreed to a Consent Assessment of Civil Penalty on December 4, 2017 based on an incident that occurred on August 15, 2017. On that date an unauthorized discharge of underflow solids at the Monarch Mine Dewatering Plant was found to be discharging to Little Deer Creek. The incident caused sludge to settle in the stream bed for approximately 2500 feet downstream of the discharge. Cleanup began on August 21, 2017 after an emergency encroachment permit was granted by DEP. Cleanup concluded on September 21, 2017. An NOV was issued on October 16, 2017.

DMR Data for Outfall 002 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly	3.72	3.27	2.88	4.18	3.43	3.71						
Flow (MGD)												
Daily Maximum	4.02	4.02	4.02	4.67	4.02	4.02						
pH (S.U.)												
Minimum	8.2	8.2	8.2	8.1	8.1	8.2						
pH (S.U.)												
Maximum	8.6	8.4	8.4	8.5	8.5	8.2						
TRC (mg/L)												
Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1						
TRC (mg/L)												
Daily Maximum	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1						
TSS (mg/L)												
Average Monthly	11	11	10	11	10	13						
TSS (mg/L)												
Daily Maximum	13	14	14	12	18	14						
Osmotic Pressure												
(mOs/kg)	۱											
Average Monthly	34	35	36	38	35	33						
Osmotic Pressure												
(mOs/kg)		07		40								
Daily Maximum	37	37	38	40	38	33						
Total Aluminum												
(mg/L)	1010	- 0 10	4040	-040	- 0 10	40.40						
Average Monthly Total Aluminum	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10						
(mg/L) Daily Maximum	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10						
Total Beryllium (mg/L)	\ 0.10	~ U.1U	~ U.1U	\ 0.10	~ 0.10	~ U. IU						
Average Monthly	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005						
Total Beryllium (mg/L)	3 0.0000	4 0.0000	4 0.0000	3 0.0000	4 0.0000	4 0.0000						
Daily Maximum	< 0.0005	< 0.0005	0.0005	< 0.0005	< 0.0005	< 0.0005						
Daily Maxilliulli	~ 0.0003	~ 0.0000	0.0005	~ 0.0003	~ 0.0003	~ 0.0005	l	l	l .		l	

Total Cadmium (mg/L)										
Average Monthly	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002				
Total Cadmium (mg/L)	~ 0.000Z	< 0.000Z	< 0.000Z	~ 0.000Z	~ 0.000Z	< 0.000Z				
Daily Maximum	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002				
Hexavalent Chromium	~ 0.000Z	< 0.000Z	< 0.000Z	~ 0.000Z	~ 0.000Z	< 0.000Z				
(mg/L)										
Average Monthly	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.002				
Hexavalent Chromium	V 0.002	V 0.004	V 0.002	V 0.002	V 0.002	₹ 0.002				
(mg/L)										
Daily Maximum	< 0.002	< 0.010	< 0.002	< 0.002	< 0.002	< 0.002				
Total Copper (mg/L)	~ 0.002	~ 0.010	~ 0.002	\ 0.002	\ 0.002	< 0.00Z				
Average Monthly	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				
Total Copper (mg/L)	< 0.002	\ 0.001	~ 0.001	< 0.001	< 0.001	\ 0.001				
Daily Maximum	0.004	< 0.001	0.002	0.001	< 0.001	< 0.001				
Free Cyanide (mg/L)	0.004	< 0.001	0.002	0.001	< 0.001	< 0.001				
Average Monthly	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02				
Free Cyanide (mg/L)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02				
Daily Maximum	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02				
	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02				
Total Iron (mg/L)	0.20	0.00	0.00	0.24	0.0	0.05				
Average Monthly	0.39	0.33	0.29	0.31	0.2	0.25				
Total Iron (mg/L) Daily Maximum	0.44	0.41	0.37	0.40	0.3	0.32				
	0.44	0.41	0.37	0.43	0.3	0.32				
Total Manganese										
(mg/L)	0.02	0.02	0.04	0.03	0.04	0.05				
Average Monthly	0.02	0.02	0.04	0.03	0.04	0.05				
Total Manganese										
(mg/L)	0.02	0.02	0.07	0.04	0.06	0.05				
Daily Maximum	0.02	0.02	0.07	0.04	0.06	0.05				
Total Selenium (mg/L)	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.003				
Average Monthly Total Selenium (mg/L)	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.003				
Daily Maximum	< 0.002	< 0.002	0.002	< 0.002	0.003	0.003				
	< 0.002	< 0.002	0.002	< 0.002	0.003	0.003				
Total Silver (mg/L)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005				
Average Monthly	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005				
Total Silver (mg/L)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005				
Daily Maximum	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	_	+	
Total Thallium (mg/L)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005				
Average Monthly	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005				
Total Thallium (mg/L)	. 0 0005	. 0 0005	- 0 0005	. 0 0005	10.0005	. 0 0005		1		
Daily Maximum	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	+	+		
Pentachloro-phenol										
(mg/L)	< 0.0000	< 0.0000	< 0.0000	< 0.0000	z 0 0000	< 0.0000				
Average Monthly	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002				

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Pentachloro-phenol									
(mg/L)									
Daily Maximum	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002			

Outfall 002 is the discharge from the Monarch Mine Dewatering Plant (MMDP). The plant was under construction from August 2016 until March 2017. During that time, there was no discharge from the MMDP.

DMR Data for Outfall 003 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly	281.8	244.0	206.5	184.6	184.6	184.6	184.6	184.6	184.6	189.1	184.6	227.3
Flow (MGD)												
Daily Maximum	321.2	310.8	250.3	184.6	184.6	184.6	184.6	184.6	184.6	193.6	184.6	240.3
pH (S.U.)												
Minimum	7.4	7.2	7.4	7.1	6.9	6.9	6.5	7.0	7.1	7.1	7.4	7.1
pH (S.U.)												
Maximum	7.6	7.6	7.4	7.1	7.4	7.2	7.1	7.2	7.3	7.7	7.7	7.7
TRC (mg/L)												
Instantaneous												
Maximum	< 0.1	< 0.1	GG	GG	GG	< 0.1	GG	< 0.1	< 0.1	< 0.1	0.1	0.1
Temperature (°F)												
Average Monthly	91.6	87.1	66.9	65.4	60.5	63.4	56.4	63.1	63.3	81.3	91.4	97.8
Temperature (°F)												
Industrial Influent												
Average Monthly	76.3	70.8	65.9	57.8	51.5	49.8	51.2	39.3	55.9	64.6	76.0	81.9
Temperature (°F)												
Daily Maximum	107.4	109.6	98.6	79.7	84.1	80.2	74.4	75.9	89.2	109.9	111.4	135.7
Temperature (°F)												
Industrial Influent												
Daily Maximum	79.3	77.5	100.4	66.4	76.7	73.6	69.2	60.9	67.8	71.3	82.1	98.4
Heat Rejection Rate												
(MBTUs/hr)	4504.0	4.400.0	0000	4500.5	4404.0	47400	404.0	4500.0	0000	4400.0	10017	1005.7
Average Monthly	1531.8	1469.6	208.9	1562.5	1431.9	1742.0	431.9	1528.8	880.6	1102.3	1221.7	1285.7
Heat Rejection Rate												
(MBTUs/hr)	00000	0045.0	447.7	4500.5	4050.0	0074.0	4440.0	4000.0	044.0	4504.0	4004.0	4007.4
Daily Maximum	2082.8	2215.3	447.7	1562.5	1652.2	2271.2	1142.3	1906.9	941.6	1591.2	1861.3	1907.1
Total Lead (mg/L)	10.004	1 0 001	4.0.004	4 0 004	4.0.004	4.0.004	4.0.004	4.0.000	4.0.004	4.0.004	4.0.004	10.001
Average Monthly	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001
Total Lead (mg/L)	0.000	0.000	0.004	< 0.004	0.000	- 0.004	- 0.004	0.002	- 0.004	- 0.004	- 0.004	< 0.001
Daily Maximum	0.002	0.002	0.001	< 0.001	0.002	< 0.001	< 0.001	0.003	< 0.001	< 0.001	< 0.001	< 0.001
Total Mercury (mg/L)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Monthly	4	5	4	6	7	4	4	5	4	3	4	5
Average Monthly	4	5	4	O	/	4	4	5	4	J	4	5

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			<			<	<		<			
Total Mercury (mg/L)	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily Maximum	5	8	4	6	3	4	4	8	4	4	5	7
Total Selenium (mg/L)												
Average Monthly	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Total Selenium (mg/L)												
Daily Maximum	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Total Silver (mg/L)												
Average Monthly	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Total Silver (mg/L)												
Daily Maximum	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005

DMR Data for Outfall 004 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Flow (MGD)												
Daily Maximum	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75

DMR Data for Outfall 005 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
pH (S.U.)												
Minimum	8.2	8.0	8.1	7.4	7.4	7.8	8.1	8.0	8.1	7.9		8.2
pH (S.U.)												
Maximum	8.2	8.0	8.1	7.4	7.4	7.8	8.1	8.0	8.1	7.9		8.2
TSS (mg/L)												
Average Monthly	26	273	24	40	373	1750	47	702	1220	744		156
TSS (mg/L)												
Daily Maximum	26	273	24	40	373	1750	47	702	1220	744		156

DMR Data for IMP 103 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly	0.11	0.07	0.18	0.01	0.11	0.02	0.07	0.10	0.05	0.06	0.05	0.1
Flow (MGD)												
Daily Maximum	0.20	0.20	0.32	0.02	0.12	0.06	0.12	0.20	0.11	0.12	0.09	0.2
pH (S.U.)												
Minimum	7.2	6.7	6.6	7.5	7.8	8.2	8.5	8.2	7.5	8.1	7.2	7.7
pH (S.U.)												
Maximum	8.3	8.3	8.5	7.5	8.3	8.4	8.6	8.5	8.6	8.6	8.5	8.4

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TSS (mg/L) Average Monthly	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 4	< 2	< 1	< 2.5
TSS (mg/L) Daily Maximum	< 1	< 1	< 1	1	< 1	< 1	2	1	7	3	1	4

DMR Data for IMP 203 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly							0.01					
Flow (MGD)												
Daily Maximum							0.02					
pH (S.U.)												
Minimum							6.9					
pH (S.U.)												
Maximum							6.9					
TSS (mg/L)												
Average Monthly							< 5					
TSS (mg/L)												
Daily Maximum							< 5					

DMR Data for IMP 303 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly							0.01		0.10	0.23	0.19	0.29
Flow (MGD)												
Daily Maximum							0.02		0.19	0.46	0.38	0.58
pH (S.U.)												
Minimum							8.4		7.3	7.6	6.9	8.3
pH (S.U.)												
Maximum							8.4		7.5	8.4	8.6	8.6
TSS (mg/L)												
Average Monthly							< 5		8	< 9	12	13
TSS (mg/L)												
Daily Maximum							< 5		9	16	14	25

IMPs 203 & 303 are discharges from two bottom ash transport ponds, which discharged alternately. In 2016 a Remote Submerged Ash Conveyor was installed, which made the bottom ash handling system closed-loop, eliminating discharges of bottom ash transport water to the ponds. Therefore, discharges from IMPs 203 & 303 are now intermittent

DMR Data for IMP 403 (from August 1, 2016 to July 31, 2017)

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Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly	0.37	0.49	0.34		0.48	0.7		0.44	0.23	0.64	0.6	0.37
Flow (MGD)												
Daily Maximum	0.37	0.52	0.39		0.48	1.23		0.67	0.39	0.82	1.14	0.37
pH (S.U.)												
Minimum	7.6	8.3	8.1		7.4	7.4		7.0	8.7	6.7	7.5	8.2
pH (S.U.)												
Maximum	7.6	8.8	8.5		7.4	7.8		8.7	8.7	8.7	8.6	8.2
TSS (mg/L)												
Instantaneous												
Maximum	3	5	12		5	5		11	11	3	46	3

DMR Data for IMP 503 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly	0.05	0.05		0.06	0.05	0.04	0.06	0.05	0.04	0.08	0.04	0.05
Flow (MGD)												
Daily Maximum	0.09	0.09		0.09	0.09	0.06	0.08	0.09	0.10	0.10	0.09	0.09
pH (S.U.)												
Minimum	7.9	8.1		7.9	8.4	8.4	8.5	8.4	8.2	8.3	8.4	8.3
pH (S.U.)												
Maximum	8.6	8.5		8.1	8.4	8.5	8.5	8.5	8.2	8.5	8.4	8.5
TSS (mg/L)												
Average Monthly	6	< 2.7		< 1	4	< 1	5	< 2	< 1	3	5	< 3.5
TSS (mg/L)												
Daily Maximum	10	5		< 1	7	1	5	6	< 1	7	7	6
Total Dissolved Solids												
(mg/L)												
Average Monthly	30767	25367		35950	26600	31250	29000	32000	20100	21825	33150	37083
Total Dissolved Solids												
(mg/L)								0.4000	00400	07.400		44000
Daily Maximum	33800	33000		38800	30000	33700	29000	34200	22400	27400	37600	44000
Oil and Grease (mg/L)	_	_		_	_	_	_	_	_	_	_	_
Average Monthly	< 5	< 5		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Oil and Grease (mg/L)						. =	. =		. =			
Daily Maximum	< 5	< 5		< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 7
Total Aluminum												
(mg/L) Average Monthly	< 0.1	< 0.4		< 1.0	< 0.55	< 0.1	< 1.0	< 0.55	< 0.1	< 0.1	< 0.6	< 0.4
Total Aluminum	\ 0.1	> 0.4		\ 1.0	× 0.55	> 0.1	\ 1.0	× 0.55	\ 0.1	~ 0.1	\ 0.0	~ 0.4
(mg/L)												
Daily Maximum	0.2	< 1.0		< 1.0	< 1.0	< 0.1	< 1.0	< 1.0	< 0.1	0.1	< 1.0	< 1.0
Daily Maxilliulli	0.2	\ 1.0		\ 1.0	\ 1.0	\ U. I	\ 1.0	\ 1.0	\ 0.1	U. I	\ 1.0	\ 1.0

Total Amazaia (maz/l)	1			ı			I	1		1	
Total Arsenic (mg/L) Average Monthly	0.006	< 0.006	< 0.01	< 0.007	0.006	< 0.01	< 0.008	0.005	0.004	< 0.008	< 0.007
Total Arsenic (mg/L)	0.006	< 0.006	< 0.01	< 0.007	0.006	< 0.01	< 0.008	0.005	0.004	< 0.008	< 0.007
Daily Maximum	0.007	< 0.01	< 0.01	< 0.01	0.006	< 0.01	< 0.01	0.005	0.005	< 0.01	< 0.01
Total Beryllium (mg/L)	0.007	< 0.01	< 0.01	< 0.01	0.006	< 0.01	< 0.01	0.005	0.005	< 0.01	< 0.01
Average Monthly	< 0.001	< 0.004	< 0.01	< 0.006	< 0.001	< 0.01	< 0.005	< 0.001	< 0.001	< 0.006	< 0.004
Total Beryllium (mg/L)	< 0.001	< 0.004	< 0.01	< 0.006	< 0.001	< 0.01	< 0.005	< 0.001	< 0.001	< 0.006	< 0.004
Daily Maximum	< 0.001	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.001	< 0.001	< 0.01	< 0.01
Total Boron (mg/L)	< 0.001	< 0.01	< 0.01	<u> </u>	< 0.001	< 0.01	< 0.01	< 0.001	< 0.001	< 0.01	\ 0.01
Average Monthly	644	501	757	545	658	795	697	425	455	522	526
Total Boron (mg/L)	044	301	757	545	030	795	091	425	455	322	320
Daily Maximum	692	627	811	675	730	795	770	489	549	545	669
Total Cadmium (mg/L)	092	021	011	0/3	730	793	770	409	349	343	009
Average Monthly	< 0.003	< 0.008	< 0.02	< 0.011	< 0.002	< 0.02	< 0.01	< 0.002	< 0.002	< 0.01	< 0.008
Total Cadmium (mg/L)	< 0.003	V 0.000	\ 0.02	\ 0.011	₹ 0.002	₹ 0.02	V 0.01	< 0.002	₹ 0.002	V 0.01	\ 0.000
Daily Maximum	0.005	< 0.02	< 0.02	< 0.02	< 0.002	< 0.02	< 0.02	< 0.002	< 0.002	< 0.02	< 0.02
Total Chromium (III)	0.000	10.02	10.02	10.02	10.002	10.02	10.02	10.002	₹ 0.002	10.02	\ 0.0Z
(mg/L)											
Average Monthly	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total Chromium (III)	10.02	10.02	10.02	10.02	10.02	10.02	10.02	10.02	10.02	10.02	10.02
(mg/L)											
Daily Maximum	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total Copper (mg/L)									7.7-		0.00
Average Monthly	< 0.01	< 0.04	< 0.10	< 0.06	< 0.01	< 0.10	< 0.06	< 0.01	< 0.01	< 0.06	< 0.04
Total Copper (mg/L)											
Daily Maximum	< 0.01	< 0.1	< 0.10	< 0.10	< 0.01	< 0.10	< 0.10	< 0.01	< 0.01	< 0.1	< 0.1
Dissolved Iron (mg/L)											
Average Monthly	< 0.05	< 0.2	< 0.5	< 0.28	< 0.05	< 0.50	< 0.28	< 0.05	< 0.05	< 0.28	< 0.2
Dissolved Iron (mg/L)											
Daily Maximum	< 0.05	< 0.5	< 0.5	< 0.50	< 0.05	< 0.50	< 0.50	< 0.05	< 0.05	< 0.5	< 0.5
Total Iron (mg/L)											
Average Monthly	0.2	< 0.2	< 0.5	< 0.28	< 0.07	< 0.50	< 0.28	< 0.07	< 0.06	< 0.28	< 0.2
Total Iron (mg/L)											
Daily Maximum	0.3	< 0.5	< 0.5	< 0.50	0.08	< 0.50	< 0.50	0.08	0.1	< 0.50	< 0.5
Total Lead (mg/L)											
Average Monthly	< 0.001	< 0.004	< 0.01	< 0.006	< 0.006	< 0.01	< 0.006	< 0.001	< 0.001	< 0.006	< 0.08
Total Lead (mg/L)											
Daily Maximum	< 0.001	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.001	< 0.001	< 0.01	< 0.2
Total Manganese											
(mg/L)	25 -										
Average Monthly	33.5	29.1	64	31	31.1	19	37	28	18	8	4.5
Total Manganese											
(mg/L)	50.0	04-				4.0				10	40.0
Daily Maximum	59.3	34.7	70	32	33.5	19	45	36	31	10	12.2

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									<		
Total Mercury (mg/L)			0.00005	0.00005		0.00003	0.00007		0.00002	0.00009	0.00003
Average Monthly	0.00019	0.00008	6	1	0.00005	9	1	0.00007	8	9	9
Total Mercury (mg/L)			0.00006	0.00005		0.00003	0.00008		0.00004	0.00014	0.00004
Daily Maximum	0.00026	0.00016	0	6	0.00007	9	4	0.00009	5	1	8
Total Nickel (mg/L)											
Average Monthly	0.05	< 0.09	< 0.13	< 0.08	0.03	< 0.10	< 0.06	0.05	0.02	< 0.06	< 0.04
Total Nickel (mg/L)											
Daily Maximum	0.09	0.11	0.15	< 0.10	0.04	< 0.10	< 0.10	0.06	0.03	< 0.1	< 0.1
Total Selenium (mg/L)											
Average Monthly	0.20	0.15	0.28	0.18	0.19	0.27	0.14	0.07	0.09	0.16	0.13
Total Selenium (mg/L)											
Daily Maximum	0.22	0.22	0.29	0.23	0.20	0.27	0.18	0.08	0.12	0.17	0.20
Dissolved Selenium											
(mg/L)											0.40
Average Monthly	0.18	0.16	0.29	0.18	0.16	0.26	0.14	0.07	< 0.09	0.17	0.12
Dissolved Selenium											
(mg/L)	0.04	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.44	0.00	0.47
Daily Maximum	0.21	0.22	0.30	0.23	0.19	0.26	0.20	0.08	0.11	0.20	0.17
Total Silver (mg/L)	4 0 005	10.00	40.05	4.0.000	4 0 005	4.0.05	4.0.000	4.0.005	4 0 005	4.0.000	40.00
Average Monthly	< 0.005	< 0.02	< 0.05	< 0.028	< 0.005	< 0.05	< 0.028	< 0.005	< 0.005	< 0.028	< 0.02
Total Silver (mg/L)	< 0.005	< 0.05	< 0.05	< 0.05	< 0.005	< 0.05	< 0.05	< 0.005	< 0.005	< 0.05	< 0.05
Daily Maximum	< 0.005	< 0.05	< 0.05	< 0.05	< 0.005	< 0.05	< 0.05	< 0.005	< 0.005	< 0.05	< 0.05
Total Zinc (mg/L) Average Monthly	< 0.01	< 0.04	< 0.10	< 0.06	< 0.01	< 0.10	< 0.06	< 0.01	< 0.01	< 0.06	< 0.04
Total Zinc (mg/L)	<u> </u>	< 0.04	< 0.10	< 0.06	< 0.01	~ 0.10	~ 0.06	< 0.01	× 0.01	< 0.06	< 0.04
Daily Maximum	0.02	< 0.1	< 0.10	< 0.10	< 0.01	< 0.10	< 0.10	< 0.01	< 0.01	< 0.1	< 0.1
Chloride (mg/L)	0.02	` 0.1	V 0.10	> 0.10	~ U.U I	~ U. 1U	~ 0.10	~ 0.01	~ 0.01	~ U. I	~ U. I
Average Monthly	15200	11643	17250	13900	15400	17200	11615	9980	10553	6650	15833
Chloride (mg/L)	13200	110-3	17230	15300	15400	17200	11010	3300	10000	5550	15055
Daily Maximum	16900	15100	18800	16600	18100	17200	17500	11300	12900	12000	19800
Daily Maximum	10300	15100	10000	10000	10100	17200	17300	11300	12300	12000	15000

DMR Data for IMP 603 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly	3.31	0.14	0.07	0.21	0.20	0.02	0.04	0.04	0.25	0.44	0.36	1.58
Flow (MGD)												
Daily Maximum	8.79	0.63	0.33	0.61	0.54	2.59	0.24	0.25	1.05	1.60	0.53	2.74
pH (S.U.)												
Minimum	7.2	7.6	7.4	8.1	7.6	8.1	7.7	6.8	6.9	7.3	7.3	6.9
pH (S.U.)												
Maximum	8.1	8.0	7.7	8.1	7.8	8.5	8.2	7.5	7.0	8.5	7.4	7.7

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TSS (mg/L) Average Monthly	15	24	14	12	< 10	< 11	18	< 10	10	< 17	< 9.5	14
TSS (mg/L) Daily Maximum	26	35	22	24	16	18	26	14	14	26	16	28

DMR Data for IMP 803 (from August 1, 2016 to July 31, 2017)

Parameter	JUL-17	JUN-17	MAY-17	APR-17	MAR-17	FEB-17	JAN-17	DEC-16	NOV-16	OCT-16	SEP-16	AUG-16
Flow (MGD)												
Average Monthly	3.73	0.68	0.41	0.27	0.73	0.47	0.56	0.53	0.62	1.39	1.19	2.29
Flow (MGD)												
Daily Maximum	9.25	1.24	0.72	0.70	1.11	1.04	1.04	1.01	1.73	2.98	2.14	3.78
pH (S.U.)												
Minimum	7.3	7.5	7.5	6.8	7.4	7.6	6.9	6.7	7.0	7.9	7.3	7.9
pH (S.U.)												
Maximum	8.9	8.7	8.4	8.6	8.2	8.6	7.9	8.1	7.9	8.7	8.6	8.8

NPDES Permit Fact Sheet NPDES Permit Fact Sheet Cheswick Generating Station

	Development of Effluent Limitations								
Outfall No. 2022									
Outfall No.	002	Design Flow (MGD)	12.4						
Latitude	40° 35' 8.00"	Longitude	-79° 49' 43.00"						
Wastewater Description: Wastewater from the Monarch Mine Dewatering Plant									

Outfall 002 is the discharge from the Monarch Mine Dewatering Plant (MMDP) to Little Deer Creek. The MMDP treats water from the Harwick Mine Complex ("Harwick"). Leachate from the Cheswick Ash Disposal Site ("landfill"), a captive waste landfill accepting coal-combustion by products from Cheswick, was previously discharged into Harwick. Based on a Consent Order and Agreement (COA) in 2014, several updates were made to the plant, resulting from a 2008 NOV issued by DEP for failure by the plant to pump 5 MGD from the mine pool. Upgrades include leachate is being pumped directly to the MMDP, a filter press was installed, and NRG will discontinue injections into the mine pool. In addition, NRG will maintain a maximum mine pool elevation of 720 feet.

Technology-Based Limitations

During the last permit renewal, the Effluent Limitation Guidelines (ELGs) for the Coal Mining Point Source Category at 40 CFR Part 434 were applied at Outfall 002. The limits are at 40 CFR §§ 434.52 and 434.53 for acid mine drainage discharges are:

Pollutant	Daily Maximum	Monthly Average
	Concentratio	n in mg/L
Total Iron	7.0	3.5
Total Manganese	4.0	2.0
TSS	70.0	35.0
На	Within the range of 6.0 t	o 9.0 at all times

In addition, during a previous permit renewal the following BPJ TBELs were developed:

Pollutant	Average Monthly (mg/L)	Daily Maximum (mg/L)
Total Beryllium	0.01	0.02
Total Cadmium	0.0003	0.0006
Hexavalent Chromium	0.006	0.012

According to eDMR data the MMDP is able to meet the BPJ limits.

Water Quality-Based Limitations

A reasonable potential (RP) analysis was conducted using DEP's Toxics Screening Analysis (Attachment D) and the sampling results submitted by Cheswick in the 2012 permit application. Antimony, Arsenic, Lead, Benzo(a)Anthracene, Benzo(a)Pyrene, 3,4-Benzofluoranthene, Benzo(k)Fluoranthene, Chrysene, Dibenzo(a,h)Anthrancene, Hexachlorobutadiene, Indeno(1,2,3-cd)Pyrene, n-Nitrosodiphenylamine, and Phenanthrene were determined to be candidates for modeling in PENTOXSD (Attachment D).

A discharge flow of 12.4 MGD as reported on the permit application was used in PENTOXSD. A Q_{7-10} flow of 0.1069 cfs used in the last permit, which is consistent with the value calculated by PA StreamStats, was used in the modeling.

The PENTOXSD results and Toxics Screening Analysis Spreadsheet determined that WQBELs were necessary for the pollutants listed below. Mass-based limits were determined by multiplying the concentration-based limit by the flow and a conversion factor of 8.34.

Pollutant	Mass (I	b/day)	Concentration (mg/L)			
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum		
Total Antimony	0.582	0.909	0.00563	0.00879		
Total Arsenic	1.04	1.624	0.01006	0.01570		
Total Lead	0.331	0.516	0.0032	0.00499		
Benzo(a)Anthracene	0.00041	0.00062	0.000004	0.000006		

Benzo(a)Pyrene	0.00041	0.00062	0.000004	0.00006
3,4-Benzofluoranthene	0.00041	0.00062	0.000004	0.000006
Benzo(k)Fluoranthene	0.00041	0.00062	0.000004	0.000006
Chrysene	0.00041	0.00062	0.000004	0.000006
Dibenzo(a,h)Anthrancene	0.00041	0.00062	0.000004	0.000006
Hexachlorobutadiene	0.048	0.074	0.00046	0.00072
Indeno(1,2,3-cd)Pyrene	0.00041	0.00062	0.000004	0.000006
n-Nitrosodiphenylamine	0.36	0.56	0.035	0.054
Phenanthrene	0.103	0.16	0.001	0.0016

The Toxics Screening Analysis recommended WQBELs for Antimony, Arsenic, Lead, Benzo(a)Anthracene, Benzo(a)Pyrene, 3,4-Benzofluoranthene, Benzo(k)Fluoranthene, Chrysene, Dibenzo(a,h)Anthrancene, Hexachlorobutadiene, Indeno(1,2,3-cd)Pyrene, n-Nitrosodiphenylamine, and Phenanthrene because non-detect results were reported, but Target Quantitation Limits (TQLs) were not met. The QLs reported were more than 50% of the WQBEL, and therefore the recommendation is to establish WQBELs as limits. The draft permit cover letter will offer the permittee the opportunity to retest these parameters at lower QLs so that the Department can reevaluate the need for effluent limits.

Little Deer Creek Impairment and TMDL

There is no WLA listed in the Little Creek TMDL for Cheswick, however the Average Monthly Limits (AMLs) in the current permit are consistent with the TMDL because they are not above water quality criteria. The AML for Total Iron is 1.5 mg/L and will remain unchanged. The AMLs for Total Aluminum and Total Manganese are both below criteria; 0.48 mg/L and 0.87 mg/L, respectively. While it is generally not appropriate for DEP to establish WQBELs below water quality criteria, the limits will remain in place due to anti-backsliding considerations. The originally developed Maximum Daily Limits of 0.96 mg/L and 1.74 mg/L for Aluminum and Manganese, respectively, will remain in the permit. Mass-based limits will be developed for each of these parameters by multiplying the concentration based limit by the flow and a conversion factor of 8.34.

Little Deer Creek is also impaired for TDS, siltation and turbidity. Monitoring for TDS and its constituents (Chloride, Bromide and Sulfide) will be included in the draft permit.

TBELs vs. WQBELs

For pollutants that have both WQBELs and TBELs, an analysis of Average Monthly WQBELs vs. Average Monthly TBELs is outlined in the table below. The more stringent of the two is presented as bold and shaded values, and will be implemented in the permit.

Pollutant	WQBEL (mg/L) ¹	WQBEL (lbs/day) ¹	TBEL (mg/L)	TBEL (lbs/day)
Total Iron	1.5	155.124	3.5	N/A
Total Manganese	0.87	89.97	2.0	N/A

 The WQBELs for Total Iron and Total Manganese were developed based on the Little Deer Creek Impairment and TMDL.

Anti-Backsliding

The limits in the current permit are outlined in the table below. The bolded parameters are WQBELs in the current permit, but were not determined to be parameters of concern during the renewal evaluation because the maximum reported value on the application and DMRs was either below criteria or below the Target Quantitation Limit. However, due to anti-backsliding requirements these highlighted WQBELs will remain in the permit. Mass-based limits will not be developed for these parameters.

Pollutant	Average	Maximum	Basis
	Monthly (mg/L)	Daily (mg/L)	
TSS	35	70	ELG TBEL
TRC	M&R	M&R	WQBEL
Total Aluminum	0.48	0.96	WQBEL
Total Iron	1.5	3.0	WQBEL

Total Manganese	0.87	1.74	WQBEL
Total Beryllium	0.01	0.02	BPJ TBEL
Total Cadmium	0.0003	0.0006	BPJ TBEL
Hexavalent Chromium	0.006	0.012	BPJ TBEL
Total Silver	0.003	0.006	WQBEL
Total Thallium	0.002	0.004	WQBEL
Total Copper	0.009	0.018	WQBEL
Pentachlorophenol	0.0003	0.0006	WQBEL
Total Selenium	0.005	0.01	WQBEL
Free Cyanide	M&R	M&R	WQBEL
Sulfate	M&R	M&R	WQBEL
Osmotic Pressure (mOs/kg)	50	100	WQBEL

Sample Type and Frequency

Sample types and frequencies are designated as outlined in Chapter 6 of the Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (362-0400-001). All parameters with a sample type of 24-hour composite will have an instantaneous maximum developed by multiplying the AML by 2.5.

NPDES Permit No. PA0001627

Proposed Effluent Limits

	Effluent Limitations			Monitoring Re	quirements			
Parameter	Mass Unit	ts (lbs/day)		Concentra	tions (mg/L)		Minimum	Required
Farameter	Average	Daily		Average	Daily	Instant.	Measurement	Sample
	Monthly	Maximum	Minimum	Monthly	Maximum	Maximum	Frequency	Туре
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Max	XXX	1/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab
Total Suspended Solids	XXX	XXX	XXX	35	70	XXX	1/week	24-Hr Composite
Total Dissolved Solids	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Osmotic Pressure (mOs/kg)	XXX	XXX	XXX	50	100	XXX	1/week	Grab
Aluminum, Total	49.64	99.28	XXX	0.48	0.96	1.2	1/week	24-Hr Composite
Antimony, Total	0.58	0.91	XXX	0.0056	0.0088	0.014	1/week	24-Hr Composite
Arsenic, Total	1.04	1.62	XXX	0.01	0.016	0.025	1/week	24-Hr Composite
								24-Hr
Beryllium, Total	XXX	XXX	XXX	0.01	0.02	0.025	1/week	Composite 24-Hr
Cadmium, Total	XXX	XXX	XXX	0.0003	0.0006	0.00075	1/week	Composite
Chromium, Hexavalent	XXX	XXX	XXX	0.006	0.012	XXX	1/week	24-Hr Composite
Copper, Total	XXX	XXX	XXX	0.009	0.018	0.023	1/week	24-Hr Composite
Cyanide, Free	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Iron, Total	155.24	310.25	XXX	1.5	3.0	3.75	1/week	24-Hr Composite
Lead, Total	0.33	0.52	XXX	0.0032	0.005	0.008	1/week	24-Hr Composite
,	89.97	179.95	XXX	0.87	1.74	2.18		24-Hr
Manganese, Total				0.87			1/week	Composite 24-Hr
Selenium, Total	XXX	XXX	XXX	0.005	0.01	0.0125	1/week	Composite

NPDES Permit No. PA0001627

Proposed Effluent Limits

		Effluent Limitations				Monitoring Re	quirements	
Parameter	Mass Unit	s (lbs/day)		Concentrat	ions (mg/L)		Minimum	Required
Parameter	Average	Daily		Average	Daily	Instant.	Measurement	Sample
	Monthly	Maximum	Minimum	Monthly	Maximum	Maximum	Frequency	Type
								24-Hr
Silver, Total	XXX	XXX	XXX	0.003	0.006	0.0075	1/week	Composite
								24-Hr
Sulfate, Total	Report	Report	XXX	Report	Report	XXX	1/week	Composite
								24-Hr
Thallium, Total	XXX	XXX	XXX	0.002	0.004	0.005	1/week	Composite
								24-Hr
Pentachlorophenol	XXX	XXX	XXX	0.0003	0.0006	0.00075	1/month	Composite
5 () 4 ()	0 00044	0.0000		0.00004		0.00004		24-Hr
Benzo(a)Anthracene	0.00041	0.00062	XXX	0.000004	0.000006	0.00001	1/week	Composite
D (-)D	0.00044	0.00000	V/V/	0.000004	0.00000	0.00004	4/	24-Hr
Benzo(a)Pyrene	0.00041	0.00062	XXX	0.000004	0.000006	0.00001	1/week	Composite 24-Hr
3.4-Benzofluoranthene	0.00041	0.00062	xxx	0.000004	0.000006	0.00001	1/week	Composite
3,4-Berizonuoraninene	0.00041	0.00062	^^^	0.000004	0.000006	0.00001	1/week	24-Hr
Benzo(k)Fluoranthene	0.00041	0.00062	xxx	0.000004	0.000006	0.00001	1/week	Composite
Benzo(k)i idorantnene	0.00041	0.00002	XXX	0.000004	0.000000	0.00001	1/Week	24-Hr
Chrysene	0.00041	0.00062	XXX	0.000004	0.000006	0.00001	1/week	Composite
orn yearid	0.00011	0.00002	7000	0.000001	0.00000	0.00001	II WOOK	24-Hr
Dibenzo(a,h)Anthrancene	0.00041	0.00062	XXX	0.000004	0.000006	0.00001	1/week	Composite
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \								24-Hr
Hexachlorobutadiene	0.048	0.074	XXX	0.00046	0.00072	0.0012	1/week	Composite
								24-Hr
Indeno(1,2,3-cd)Pyrene	0.00041	0.00062	XXX	0.000004	0.000006	0.00001	1/week	Composite
								24-Hr
n-Nitrosodiphenylamine	0.36	0.56	XXX	0.035	0.054	0.088	1/week	Composite
								24-Hr
Phenanthrene	0.103	0.16	XXX	0.001	0.0016	0.0025	1/week	Composite
	1						l	24-Hr
Chloride	Report	Report	XXX	Report	Report	XXX	1/week	Composite
B	J	D	VVV	B	D	V///	47	24-Hr
Bromide	Report	Report	XXX	Report	Report	XXX	1/week	Composite

Development of Effluent Limitations						
Outfall No.	003	Design Flow (I	MGD) 376			
Latitude	40° 32' 12.0	00" Longitude	-79° 47' 39.00"			
Wastewater D	Wastewater Description: IW Process Effluent with ELG, Noncontact Cooling Water (NCCW)					

Outfall 003 is the primary outfall at the facility, receiving once-through non-contact cooling water, uncontaminated stormwater, and flow from IMPs 103 and 803, which receives flow from IMPs 203, 303, 403, 503 and 603. A discharge pipe enters approximately midway into a constructed basin in the Allegheny River, which has an overflow weir at the downstream end.

Technology-Based Limitations

Effluent limits applicable to once-through cooling are at 40 CFR § 423.13(b)(1):

Pollutant	Maximum (mg/L)
Total Residual Chlorine	0.2

Additionally, as required by 40 CFR § 423.13(b)(2): Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted. This will be included as a Part C condition.

In addition, pH limits in accordance with 25 Pa. Code § 95.2(2) apply.

TBELs for all other wastestreams discharging via Outfall 003 will be implemented at the respective IMPs before combining at Outfall 003.

Water Quality-Based Limitations (at each IMP)

A water-quality analysis will be conducted for each IMP separately. WQBELs will be implemented at IMPs and will not be included for Outfall 003.

A Q_{7-10} flow of 2761 cfs at Outfall 003 was calculated using flow data from USGS Gage 03049500 on the Allegheny River at Natrona, PA. The Q_{7-10} at the gage was calculated using DFLOW (results are provided in Attachment B) and then translated to the location of the Outfall 003 on the Allegheny River. This design stream flow will be used to developed WQBELs for all IMPs contributing to Outfall 003. The calculation is below:

$$\frac{Flow_{gage}}{Drainage\ Area_{gage}} = \frac{Flow_{Outfall}}{Drainage\ Area\ _{Outfall}}$$

$$\frac{2740\ cfs}{11410\ mi^2} = \frac{Q_{7-10}}{11500\ mi^2}$$

$$Q_{7-10} = 2761\ cfs$$

316(a) Thermal Requirements

Water from the once-through cooling system is discharged via Outfall 003 and makes up a majority (~99%) of the effluent. Cheswick does not have any cooling towers. The Allegheny River is a Warm Water Fishery (WWF) with applicable criteria in 25 Pa. Code § 93.7. During the last permit issuance the Department approved Cheswick's request for an extension of its thermal variance under the CWA Section 316(a). In order to extend the variance beyond the permit term the permit required Cheswick to complete a thermal profile study. As required by the permit Cheswick submitted the study with the permit application 180 days before the permit expired.

The Thermal Spreadsheet (Attachment C) was run and indicated that Cheswick would not be able to meet limits that would ensure criteria for WWF was met instream.

However, as requested, the variance will be extended for this permit term. A condition requiring Cheswick to complete an additional 316(a) evaluation study will be included in Part C of the permit. The study will be due with the permit renewal application.

The limit for the temperature variance is a Heat Rejection Rate of 2.69 X 10⁹ BTU/hr. Additionally, discharge temperature will be monitored continuously.

The public notice for the draft permit will comply with the requirements at 40 CFR § 124.57.

Total Dissolved Solids (TDS)

The permittee has been monitoring Total Dissolved Solids (TDS) and Chloride at IMP 503 (FGD Outfall). The average TDS from 2011 to 2017 was 27,300 mg/l with 51,400 mg/l as the maximum during the same time period. On the permit application, the average TDS at Outfall 003 was 159 mg/L and the maximum was 186 mg/L. IMP 503 discharges via Outfall 003, but is significantly diluted by once-through cooling water. For the purpose of compliance with 25 Pa. Code § 95.10 as it relates to TDS loading, this facility is classified as "Authorized Load/No Increase." Since the Department approved the discharge prior to August 2010, the treatment requirement for TDS under 25 Pa. Code § 95.10 is not required. Monitoring for TDS, chloride, bromide and sulfate will be included at IMP 503 and Outfall 003.

Federal Stream Electric ELG

Effluent Limitation Guidelines (ELGs) for flue gas desulfurization (FGD) wastewater and bottom ash transport water were published as a final rulemaking by the U.S. Environmental Protection Agency (EPA) in 2015, amending 40 CFR Part 423. EPA has subsequently postponed the initial compliance date for the FGD wastewater and for bottom ash transport water ELGs by two years. While EPA may ultimately rescind, revoke or modify the ELGs prior to the initial compliance date of November 1, 2020, the ELGs are effective now and DEP must utilize them in NPDES permits in accordance with the Clean Water Act and 40 CFR Part 122 regulations.

The ELG for bottom ash transport water will be applicable at IMPs 203 and 303, and the ELG for FGD will be applicable at IMP 503. Each of those IMPs discharge to the Allegheny River via Outfall 003.

Development of Effluent Limitations					
IMP No.	103	Design Flow (MGD)	0.4 MGD		
Latitude	40° 32' 12.00"	Longitude	-79° 47' 39.00"		
Wastewater D	escription: Boiler Blow	own			

IMP 103 consists of boiler blowdown from the main and auxiliary boilers. IMP 103 is sampled before confluence with IMP 803 and the NCCW, and discharges to the Allegheny River via Outfall 003.

Technology-Based Limitations

The applicable ELGs for IMP 103 are at 40 CFR § 423.12(b)(3) for low-volume wastes.

Pollutant	Effluent Limits	
Foliutalit	Daily Maximum (mg/L)	Average Monthly (mg/L)
TSS	100.0	30.0
Oil and Grease	20.0	15.0

In addition, pH limits in accordance with 25 Pa. Code § 95.2(2) apply.

Water Quality-Based Limitations

An RP analysis was conducted using DEP's Toxics Screening Analysis (Attachment D) and the sampling results submitted by Cheswick in the 2012 permit application, along with additional information submitted in December 2017. Antimony, Arsenic, Boron, Cadmium, Lead, Phenols, Selenium, and Thallium were determined to be candidates for modeling in PENTOXSD (Attachment D).

A discharge flow of 0.4 MGD as reported on the permit application and consistent with eDMR data was used in PENTOXSD. The PENTOXSD results and Toxics Screening Analysis Spreadsheet determined that the was no reasonable potential to violate water quality criteria.

Anti-Backsliding

The limits below are included in the current permit:

Pollutant	Effluent Limits		
Pollutarit	Daily Maximum (mg/L)	Average Monthly (mg/L)	
TSS	100	30	
Oil and Grease	20	15	
pH (S.U.)	9.0	6.0 (minimum)	

None of the current limits are less stringent than the limits that will be included in the reissuance. It is noted that the existing permit requires the facility to monitor twice in the same month for Oil and Grease and submit the results on a DMR on a quarterly basis. For the renewed permit, the Department will change the statistical base code from Average Monthly to Average Quarterly and keep the sampling frequency the same (2/quarter).

Sample Type and Frequency

Sample types and frequencies are designated as outlined in Chapter 6 of the Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (362-0400-001).

Development of Effluent Limitations					
IMP No.	203/303		Design Flow (MGD)	1.2	
Latitude	40° 35' 8.00)"	Longitude	-79° 49' 43.00"	
Wastewater Description: Effluent from bottom ash ponds		_			

IMPs 203 & 303 are bottom ash ponds that contain legacy bottom ash transport water. IMP 203 receives wastewater from the emergency pond and IMP 303 receives wastewater from the recycle pond. The IMPs typically do not discharge at the same time. In 2016 a Remote Submerged Flight Conveyor was installed to handle bottom ash transport water. The system is essentially closed loop and bottom ash transport water is no longer discharged to the ponds, except for leaks or discharges when maintenance is being performed on the system. Though an agreement with Duquesne Light, a small flow of leachate from the Kissick Landfill and leachate from the closed emergency fly ash pond is also treated in the ponds.

Technology-Based Limitations

BAT limits at 40 CFR § 423.13(k)(1)(i) are applicable to bottom ash transport water. These limitations were a part of the rulemaking published in 2015 and are also a part of EPA's reconsideration. BAT for bottom ash transport water is "there shall be no discharge of pollutants in bottom ash transport water." This BAT limitation only applies to bottom ash transport water generated after the compliance date. A footnote will be established in Part A of the permit prohibiting the discharge of bottom ash transport water generated after the compliance date, except where it is used in the FGD system. The legacy water contributed to the ponds prior to the compliance date will be subject to the BPT limits in 40 CFR § 423.12(b)(4):

Pollutant	BPT Effluent Limits		
Foliutalit	Daily Maximum (mg/L)	Average Monthly (mg/L)	
TSS	100.0	30.0	
Oil and Grease	20.0	15.0	

Note: The legacy wastewater from the closed emergency fly ash pond is also covered under these BPT limits.

Compliance Time with BAT ELGs

The conditions of 40 CFR § 423.13(k)(1)(i) states that the compliance dates for bottom ash transport water are 'as soon as possible beginning November 1, 2020, but no later than December 31, 2023'. Cheswick has requested a compliance date of December 31, 2023 and provided justification for the latest possible date (Attachment E). DEP has accepted the justification and a compliance date of December 31, 2023 will be in Part C of the permit. This provision will not be applicable if EPA publishes notice of the rescission or revocation of the ELGs at 40 CFR § 423.13(k)(1)(i) prior to December 31, 2023.

Water Quality-Based Limitations

An RP analysis was conducted using DEP's Toxics Screening Analysis (Attachment D) and the sampling results submitted by Cheswick in the 2012 permit application. Antimony, Arsenic, Boron, Cadmium, Copper, Lead, Manganese, Phenols, Selenium, Silver, and Thallium were determined to be candidates for modeling in PENTOXSD (Attachment D).

A discharge flow of 1.2 MGD, which was the highest reported flow on DMRs over the last 5 years for either IMP, was used in PENTOXSD. A maximum discharge flow of 1.85 MGD was reported on the application, but that flow has not been reached over the past 5 years. The PENTOXSD results and Toxics Screening Analysis Spreadsheet determined that monitoring would be required for Thallium.

The Toxics Screening Analysis recommended monitoring for Thallium because non-detect results were reported, but Target Quantitation Limits (TQLs) were not met. The QLs reported were more than 10% of the WQBEL, and therefore the recommendation is to establish a monitoring requirement. The draft permit cover letter will offer the permittee the opportunity to retest these parameters at lower QLs so that the Department can reevaluate the need for effluent limits.

Anti-Backsliding

The limits below are included in the current permit:

Parameter	Average Monthly (mg/L)	Daily Maximum (mg/L)
Flow (MGD)	Monitor	Monitor
TSS	30	100

Oil and Grease	15	20
----------------	----	----

None of the current limits are less stringent than the limits that will be included in the reissuance. It is noted that the existing permit requires the facility to monitor twice in the same month for Oil and Grease and submit the results on a DMR on a quarterly basis. For the renewed permit, the Department will change the statistical base code from Average Monthly to Average Quarterly and keep the sampling frequency the same (2/quarter).

Proposed Limits

Parameter	Average Daily Maxim			
	Monthly (mg/L)	(mg/L)		
Flow	Monitor and Report (MGD)			
pН	Between 6.0 and 9.0 SU			
TSS	30.0	100.0		
Oil and Grease	15.0	20.0		
Thallium	Monitor	Monitor		

These limits are only applicable to bottom ash transport water generated before the compliance date. Bottom ash transport water generated after the compliance date will be prohibited from discharge, unless it is used in the FGD scrubber.

Sample Type and Frequency

Sample types and frequencies are designated as outlined in Chapter 6 of the Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (362-0400-001). All parameters with a sample type of 24-hour composite will have an instantaneous maximum developed by multiplying the AML by 2.5.

Development of Effluent Limitations						
IMP No.	403		Design Flow (MGD)	1.23		
Latitude	40° 32' 26.0	00"	Longitude	-79° 47' 36.00"		
Wastewater D	escription:	Treated Coal Pile Runoff	_			

Wastewater at IMP 403 consists flow from the coal pile runoff pond. The pond receives runoff from the coal pile and crusher house. Water in the pond is directed into the lime silo building for treatment and then returned to the pond. Discharges occur in batches when the effluent is meeting specified limits.

Technology-Based Limitations

The ELG at 40 CFR § 423.12(b)(9) for Coal Pile Runoff is applicable at IMP 403. The following limits apply:

Pollutant	Effluent Limits
	Maximum
TSS	50

In addition, pH limits in accordance with 25 Pa. Code § 95.2(2) apply.

Water Quality-Based Limitations

An RP analysis was conducted using DEP's Toxics Screening Analysis (Attachment D) and the sampling results submitted by Cheswick in the 2012 permit application. Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium were determined to be candidates for modeling in PENTOXSD (Attachment D).

A discharge flow of 1.23 MGD, which was the maximum reported over the last 5 years of DMR data, was used in PENTOXSD. A maximum discharge rate of 2.12 MGD was reported on the application, but that discharge rate was not reported over the last 5 years. PENTOXSD results and Toxics Screening Analysis Spreadsheet determined reasonable potential did not exist for any parameters.

Anti-Backsliding

The only effluent limits in the current permit are the above listed TBELs for TSS and pH, and both will be included in the reissued permit.

NPDES Permit Fact Sheet NPDES Permit Fact Sheet Cheswick Generating Station

	Development of Effluent Limitations							
IMP No.	503	Design Flow (MGD)	0.18					
Latitude	40° 32' 36.00"	Longitude	-79° 47' 36.00"					
Wastewater D	Wastewater Description: Wastewater from the Flue Gas Desulfurization (FGD) System							

Wastewater from IMP 503 is discharged to the Allegheny River via Outfall 003. IMP 503 consists solely of wastewater from the Flue Gas Desulfurization (FGD) Treatment Plant. IMP 503 was designated as the FGD wastewater outfall during the last permit issuance. At that time the FGD system was not yet constructed; however, it is now currently in operation. The treatment system is comprised of the following treatment processes: equalization, neutralization, chemical precipitation, coagulation/flocculation, sedimentation, neutralization, filtration, and solids dewatering.

Technology-Based Limitations

During the last permit review there were no ELGs for FGD wastewater. TBELs were developed based on Best Professional Judgement (BPJ). The BPJ limits in the current permit were developed based on the performance of existing FGD wastewater treatment facilities and the expected performance of the proposed facility based on the expected influent and effluent quality submitted with the NPDES Amendment and Water Quality Management Part II applications. The following Average Monthly TBELs were included in the last permit issuance:

Pollutant	BPJ TBEL (mg/L)
Total Beryllium	0.8
Total Copper	0.1
Total Lead	0.1
Total Mercury	0.004
Total Silver	0.1

The new BAT limits for FGD wastewater are in 40 CFR § 423.13(g). BAT limits for FGD are currently being reconsidered, but nevertheless must be implemented according to the rule until EPA publishes a revision or revokes the limits. The BAT limits for FGD are:

	Effluent Limitations				
Pollutant	Daily Maximum	Average Monthly			
Total Arsenic (µg/L)	11	8			
Total Mercury (ng/L)	788	356			
Total Selenium (µg/L)	23	12			
Nitrate/nitrite as N (mg/L)	17.0	4.4			

Mass-based limits were derived by multiplying the above limits by the flow and a conversion factor of 8.34 (for concentrations in mg/L) at IMP 503:

	Effluent Limitations (lbs/day)				
Pollutant	Daily Maximum	Average Monthly			
Total Arsenic	0.002	0.0014			
Total Mercury	0.00014	0.00006			
Total Selenium	0.0041	0.0022			
Nitrate/nitrite as N	3.06	0.792			

The both the BPJ and BAT limits will be included in the reissued permit. The BPJ limit for Total Mercury will be an interim limit until the compliance date for the final BAT limit.

In addition, pH and Oil & Grease limits in accordance with 25 Pa. Code § 95.2(2) apply.

Compliance Date to meet BAT ELGs

The conditions of 40 CFR § 423.13(g) state that the compliance dates for FGD wastewater are "as soon as possible beginning November 1, 2020, but no later than December 31, 2023." The BAT limits are based on the use of biological treatment which Cheswick does not currently employ. Cheswick has requested a compliance date of December 31, 2023 and provided justification for the latest possible date (Attachment E). DEP has accepted the justification and a compliance date of December 31, 2023. A footnote will be put in Part A of the permit stating that the effluent limitation guidelines (ELGs) for Best Available Technology (BAT) at 40 CFR § 423.13(g)(1)(i) will apply to wastewater from the FGD system beginning on December 31, 2023. If EPA publishes notice of the modification of the ELGs at 40 CFR § 423.13(g)(1)(i) prior to December 31, 2023, Cheswick will be required to achieve compliance with the modified ELGs as soon as possible but no later than the date established by federal regulations.

In the interim, Cheswick will be required to monitor and report for all ELG parameters. The previously imposed BPJ TBEL for Mercury will remain in the permit,

Water Quality-Based Limitations

An RP analysis was conducted using DEP's Toxics Screening Analysis (Attachment D) and the sampling results submitted by Cheswick in the 2012 permit application. Antimony, Arsenic, Boron, Cadmium, Copper, Lead, Manganese, Phenols, Selenium, Silver, and Thallium were determined to be candidates for modeling in PENTOXSD.

A discharge flow of 0.18 MGD as reported on the permit application, and consistent with DMR data, was used in PENTOXSD (Attachment D).

The PENTOXSD results and Toxics Screening Analysis Spreadsheet determined that WQBELs were necessary for Boron. Mass-based limits were developed by multiplying the concentration based limits by the flow and a conversion factor of 8.34. The resulting WQBELs are:

Pollutant	Mass (lb	os/day)	Concentration (mg/L)		
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	
Total Boron	780.6	1,217.8	520	811	

There are no applicable TBELs for Boron for this discharge, so the WQBELs for Boron will be included in the permit.

In addition to the limits outlined above, monitoring for TDS and its constituents, Chloride, Bromide, and Sulfate will be included at IMP 503 since they are pollutants of concern in Pennsylvania and are expected to be discharged from the FGD system.

Compliance Schedule for WQBELs

As indicated by permit application and DMR data Cheswick is not currently able to meet the new WQBEL for Total Boron. Toxics Reduction Evaluation Language will be included in Part C and a 3 year compliance schedule will be allowed to meet the Total Boron limit. A monitor and report requirement will be included for the first 3 years of the permit term.

Anti-Backsliding

All of the previously established BPJ TBELs will be included in the renewal. All final and interim limits are equal to or more stringent than the existing limits. The current permit has monitor and report requirements for Total Aluminum, Total Cadmium, Chromium III, Dissolved Iron, Total Iron, Dissolved Selenium, Total Nickel, Total Manganese, and Total Zinc which will continue in the renewal.

Sample Type and Frequency

Sample types and frequencies are designated as outlined in Chapter 6 of the Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (362-0400-001). All parameters with a sample type of 24-hour composite will have an instantaneous maximum developed by multiplying the AML by 2.5.

NPDES Permit No. PA0001627

Proposed Effluent Limits

From Permit Effective Date to Three Years Following Permit Effective Date

			Effluent L	imitations			Monitoring Requirements	
Parameter	Mass Unit	ts (lbs/day)		Concentrations (mg/L)				Required
i arameter	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	xxx	XXX	6.0	XXX	9.0	XXX	1/week	Grab
Total Suspended Solids	XXX	XXX	XXX	10.0	20.0	25.0	1/week	24-Hr Composite
Total Dissolved Solids	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Oil and Grease	XXX	XXX	XXX	15.0	20.0	XXX	1/week	Grab
Nitrate/nitrite as N	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Aluminum, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Arsenic, Total	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Beryllium, Total	XXX	XXX	XXX	0.8	1.6	2.0	1/week	24-Hr Composite
Boron, Total	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Cadmium, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Chromium III, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Copper, Total	XXX	XXX	XXX	0.1	0.2	0.25	1/week	24-Hr Composite
Iron, Dissolved	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Iron, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Lead, Total	XXX	XXX	XXX	0.1	0.2	0.25	1/week	24-Hr Composite
Manganese, Total	XXX	XXX	XXX	Report	Report	xxx	1/week	24-Hr Composite
Mercury, Total	Report	Report	XXX	0.004	0.008	0.01	1/week	24-Hr Composite

NPDES Permit No. PA0001627

From Permit Effective Date to Three Years Following Permit Effective Date

		Effluent Limitations						quirements
Parameter	Mass Unit	s (Ibs/day)		Concentrations (mg/L)				Required
raiameter	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
				_	_			24-Hr
Nickel, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	Composite
								24-Hr
Selenium, Total	Report	Report	XXX	Report	Report	XXX	1/week	Composite
				_	_			24-Hr
Selenium, Dissolved	XXX	XXX	XXX	Report	Report	XXX	1/week	Composite
								24-Hr
Silver, Total	XXX	XXX	XXX	0.1	0.2	0.25	1/week	Composite
	_	_		_				24-Hr
Sulfate, Total	Report	Report	XXX	Report	Report	XXX	1/week	Composite
								24-Hr
Zinc, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	Composite
								24-Hr
Chloride	Report	Report	XXX	Report	Report	XXX	1/week	Composite
								24-Hr
Bromide	Report	Report	XXX	Report	Report	XXX	1/week	Composite

From Three Years Following Permit Effective Date to Permit Expiration Date

		Effluent Limitations						
Parameter	Mass Unit	ts (lbs/day)		Concentra	tions (mg/L)		Minimum	Required
Farameter	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/week	Grab
Total Suspended Solids	XXX	XXX	XXX	10.0	20.0	25.0	1/week	24-Hr Composite
Total Dissolved Solids	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Oil and Grease	XXX	XXX	XXX	15.0	20.0	XXX	1/week	Grab
Nitrate/nitrite as N	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite

NPDES Permit No. PA0001627

From Three Years Following Permit Effective Date to Permit Expiration Date

Parameter		Monitoring Requirements						
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum	Required
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Aluminum, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Arsenic, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Beryllium, Total	XXX	XXX	XXX	0.8	1.6	2.0	1/week	24-Hr Composite
Boron, Total	780.6	1,217.8	XXX	520	811	1,300	1/week	24-Hr Composite
Cadmium, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Chromium III, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Copper, Total	XXX	XXX	XXX	0.1	0.2	0.25	1/week	24-Hr Composite
Iron, Dissolved	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Iron, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Lead, Total	XXX	XXX	XXX	0.1	0.2	0.25	1/week	24-Hr Composite
Manganese, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Mercury, Total	Report	Report	XXX	0.004	0.008	0.01	1/week	24-Hr Composite
Nickel, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Selenium, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Selenium, Dissolved	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Silver, Total	XXX	XXX	XXX	0.1	0.2	.025	1/week	24-Hr Composite
Sulfate, Total	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Zinc, Total	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite

NPDES Permit No. PA0001627

From Three Years Following Permit Effective Date to Permit Expiration Date

Parameter		Monitoring Requirements						
	Mass Units (Ibs/day)		Concentrations (mg/L)				Minimum	Required
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
								24-Hr
Chloride	Report	Report	XXX	Report	Report	XXX	1/week	Composite
								24-Hr
Bromide	Report	Report	XXX	Report	Report	XXX	1/week	Composite

Development of Effluent Limitations						
Outfall No.	603		Design Flow (MGD)	3.22		
Latitude	40° 32' 36.0	00"	Longitude	-79° 47' 36.00"		
Wastewater Description: IW P		IW Process Effluent with ELG				

IMP 603 receives wastewater from the north and south ponds. The ponds receive flow from ash sumps, miscellaneous low-volume wastes, floor drains and flow from storm water catch basins/trench drains on south side of coal pile.

Technology-Based Limitations

The applicable effluent limits are at 40 CFR § 423.12(b)(3) for low-volume wastes:

Pollutant	Effluent Limits			
Foliutalit	Daily Maximum (mg/L)	Average Monthly (mg/L)		
TSS	100.0	30.0		
Oil and Grease	20.0	15.0		

In addition, pH limits in accordance with 25 Pa. Code § 95.2(2) apply.

Water Quality-Based Limitations

An RP analysis was conducted using DEP's Toxics Screening Analysis (Attachment D) and the sampling results submitted by Cheswick in the 2012 permit application, along with additional results submitted in December 2017. Antimony, Arsenic, Cadmium, Dissolved Iron, Lead, Manganese, Selenium and Thallium were determined to be candidates for modeling in PENTOXSD (Attachment D).

A discharge flow of 3.22 MGD as reported on the permit application, which is consistent with DMR data, was used in PENTOXSD. The PENTOXSD results and Toxics Screening Analysis Spreadsheet determined reasonable potential was established for Cadmium. The spreadsheet recommended monitoring for Cadmium.

The Toxics Screening Analysis recommended monitoring for Cadmium because non-detect results were reported, but Target Quantitation Limits (TQLs) were not met. The QLs reported were more than 10% of the calculated WQBEL, and therefore the recommendation is to establish monitoring requirements. The draft permit cover letter will offer the permittee the opportunity to retest these parameters at lower QLs so that the Department can reevaluate the need for monitoring.

Anti-Backsliding

The limits below are included in the current permit:

Pollutant	Effluent Limits				
Poliulani	Daily Maximum (mg/L)	Average Monthly (mg/L)			
TSS	100	30			
Oil and Grease	20	15			
pH (S.U.)	9.0	6.0 (minimum)			

None of the current limits are less stringent than the limits that will be included in the reissuance. It is noted that the existing permit requires the facility to monitor twice in the same month for Oil and Grease and submit the results on a DMR on a quarterly basis. For the renewed permit, the Department will change the statistical base code from Average Monthly to Average Quarterly and keep the sampling frequency the same (2/quarter).

Development of Effluent Limitations					
Outfall No.	803	Design Flow (MGD)	5.35		
		• ,			
Latitude	40° 32' 12.00"	Longitude	-79° 47' 39.00"		
Wastewater D	escription: Combination of IMPs 203, 303, 40	3, 503 and 603			

IMP 803 receives flow from IMPs 203, 303, 403, 503, and 603 and discharges to the Allegheny River via Outfall 003. There are no applicable ELGs or WQBELs at this IMP as they are applied before combination at IMP 803. A water quality analysis was not conducted for IMP 803 because it was conducted at each contributing IMP.

pH limits in accordance with 25 Pa. Code § 95.2(2) apply. Additionally, Cheswick will be required to monitor flow at this IMP.

Development of Effluent Limitations						
Outfall No.	004	Design Flow (MGD)	0.85			
Latitude	40° 32' 8.00"	Longitude	-79° 47'20.00"			
Wastewater D	escription: Screen Back	wash				

Outfall 004 consists of intake screen backwash and screenhouse backwash from the debris removal system.

Technology-Based Limitations

There are no applicable ELGs at this Outfall. pH limits in accordance with 25 Pa. Code § 95.2(2) apply.

Water Quality-Based Limitations

DEP's Toxics Screening Analysis (Attachment D) was conducted using the sampling results submitted by Cheswick in the 2012 permit application. Antimony, Arsenic, Cadmium, Dissolved Iron, Lead, Manganese and Thallium were determined to be candidates for modeling in PENTOXSD (Attachment D). The Toxic Screening Analysis Spreadsheet determined reasonable potential was ruled out for all other pollutants.

Anti-Backsliding

The current pH limits will remain in the permit.

Development of Effluent Limitations						
Outfall No.	005		Design Flow (MGD)	0		
Latitude	40° 35' 8.00)"	Longitude	-79° 49' 43.00"		
Wastewater D	escription:	Stormwater				

Outfall 005 consists of stormwater from the Monarch Mine Dewatering Plant (MMDP) and discharges to Little Deer Creek downstream of Outfall 002. The previous renewal required Cheswick to complete a Stormwater Pollution Prevention Plan (SWPPP). The permit also required sampling for TSS and Hexavalent Chromium. After implementation of the SWPPP and one year of sampling Cheswick was able demonstrate that the stormwater was no longer contaminated with Hexavalent Chromium and monitoring was removed from the permit.

A condition in Part C of the permit will prescribe benchmark values for stormwater discharges. Benchmark values are a concept in the most recent version of the PAG-03 for Stormwater Discharges Associated with Industrial Activity. The benchmark values are not permit limits, however, if they are exceeded in two consecutive monitoring periods it will trigger a requirement for a corrective action plan to reduce the pollutant concentration. These values will also be applicable to the other stormwater discharges at Outfalls 010 and 011. Outfalls 010 and 011 discharge to an Unnamed Tributary of Little Deer Creek which is also included in the Little Deer Creek TMDL. WLAs for the discharges are not assigned in the TMDL so the benchmark values for the AMD constituents, Aluminum, Iron and Manganese, will be set to criteria.

The PAG-03 contains several appendices listing benchmark values for the associated Industrial Activity. Coal-mining is not included in the PAG-03, but is included in EPA's Multi-Sector General Permit (MSGP) for Discharges of Stormwater Associated with Industrial Activity. The pollutants listed in Sector H for Coal Mines and Coal Mine Related Facilities will be included at Outfall 005. The pollutants are Total Aluminum, Total Iron and TSS. The benchmark value for Total Aluminum in the MSGP is equal to DEP's criterion of 0.75 mg/L. The benchmark values of 1.5 mg/L and 1.0 mg/L will be established for Total Iron and Total Manganese, respectively, reflecting the most stringent water quality standard. The benchmark value of 100 mg/L for TSS in the MSGP is the same as the value listed in the Appendices for the PAG-03 and will also be included. The benchmarks that will apply to Outfalls 005, 010 and 011 are listed below.

Parameter	Benchmark Value (mg/L)
Total Suspended Solids	100
Total Aluminum	0.75
Total Iron	1.5
Total Manganese	1.0

Development of Effluent Limitations					
Outfall No. 010 Latitude 40° 35' 0.0 Wastewater Description:		Design Flow (MGD) Longitude	0 -79° 50' 0.00"		

Outfall 010 is a stormwater outfall at the Lefever Ash Disposal Site that discharges to an Unnamed Tributary of Little Deer Creek. Analytical results submitted with the application are indicative of no exposure and fall below the no exposure benchmarks outlined in the current industrial and industrial stormwater permit applications. Since the stream is impaired and is a part of the Little Deer Creek TMDL, semi-annual monitoring requirements for Total Aluminum, Total Iron, and Total Manganese will be included in the renewal, along with pH and TSS. Benchmark values will be established as discussed previously for Outfall 005.

Development of Effluent Limitations						
Outfall No. Latitude Wastewater D	011 40° 35' 0.00" escription: Stormwater	Design Flow (MGD) Longitude	0 -79° 50' 0.00"			

Outfall 011 is a stormwater outfall at the Lefever Ash Disposal Site that discharges to an unnamed Tributary of Little Deer Creek. Analytical results submitted with the application were not indicative of no exposure and showed elevated levels of Aluminum and Iron. Monitoring at Outfall 011 will be required monthly for the parameters listed in the Little Deer Creek TMDL, along with pH and TSS. Benchmark values will be established as discussed previously for Outfall 005.

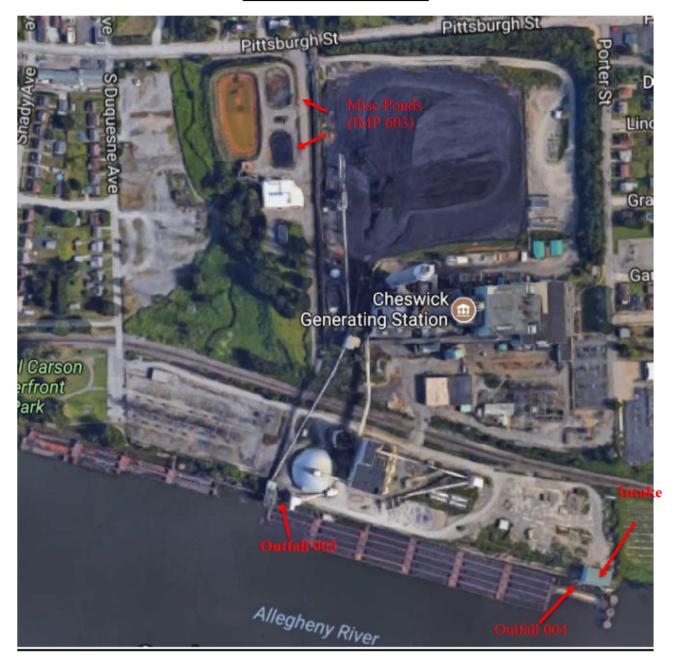
316(b) Cooling Water Intake Structures

Cheswick operates a cooling water intake system consisting of three intake bays equipped with debris boom, curtain wall, bar screens and vertical 12 ft wide traveling screens. The Design Intake Flow (DIF) is 376 MGD and the Actual Intake Flow is 185 MGD. Under the "Existing Facilities Rules" made final by EPA on August 15, 2014, Cheswick is an Existing Facility.

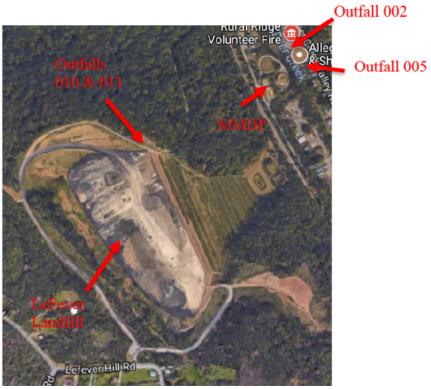
Since the AIF is great than 125 MGD Cheswick is required to complete the studies outlined in 40 CFR §§ 122.21(r)(9)-(12) in addition to the permit application requirements for all Existing Facilities outlined in 40 CFR §§ 122.21(r)(2)-(8). The application material has not yet been submitted, because the application was submitted before the new rulemaking was promulgated. Therefore a BTA determination for impingement and entrainment will not be made until the next permit cycle.

Cheswick has begun to develop the studies outlined in 40 CFR §§ 122.21(r)(9)-(12). The Entrainment Characterization Plan was approved on January 5, 2016 and they are currently carrying out a 2-year study. Part C conditions will be developed with a schedule of submission for the application material in advance of the next permit application.

Attachment A - Facility Maps







Attachment B - DFLOW Results

DFLOW Results

		Days in			Excur per 3			Excur	
Gage	Period	Record	Zero/Missing	Percentile	yr	7Q10	Percentile	per 3 yr	7Qy Type
03049500 -									
Allegheny	1996/04/01								
River at	-								
Natrona, PA	2017/04/01	7,670	0/0	0.09%	1	2.74E+03	0.53%	2.29	7Q11

NPDES Permit Fact Sheet Cheswick Generating Station

NPDES Permit No. PA0001627

	Cheswick						
Permit Number:							
	Allegheny River						
Stream.	Allegheny River						
	WWF			WWF	WWF		PMF
	Ambient Stream	Ambient Stream	Target Maximum	Daily	Daily		
	Temperature (°F)	Temperature (°F)	Stream Temp. 1	WLA ²	WLA ³	at Discharge	
	(Default)	(Site-specific data)		(Million BTUs/day)	(°F)	Flow (MGD)	
Jan 1-31	35	(/	40	50,643	67.9	184.6	0.2
Feb 1-29	35		40	56,545	71.7	184.6	0.2
Mar 1-31	40		46	119,683	110.0	184.6	0.2
Apr 1-15	47		52	135,151	110.0	184.6	0.2
Apr 16-30	53		58	135,151	110.0	184.6	0.2
May 1-15	58		64	97,780	104.9	250.3	0.2
May 16-31	62		72	162,967	110.0	250.3	0.2
Jun 1-15	67		80	137,749	110.0	310.8	0.2
Jun 16-30	71		84	137,749	110.0	310.8	0.2
Jul 1-31	75		87	72,702	102.1	321.2	0.2
Aug 1-15	74		87	72,868	110.0	240.3	0.2
Aug 16-31	74		87	72,868	110.0	240.3	0.2
Sep 1-15	71		84	56,434	107.7	184.6	0.2
Sep 16-30	65		78	56,434	101.7	184.6	0.2
Oct 1-15	60		72	59,724	97.0	193.6	0.2
Oct 16-31	54		66	59,724	91.0	193.6	0.2
Nov 1-15	48		58	64,430	89.9	184.6	0.2
Nov 16-30	42		50	51,544	75.5	184.6	0.2
Dec 1-31	37		42	49,347	69.1	184.6	0.2
		on or the ambient tempe		•			
- · ·			ream temperature bas	ed on site-specific data entered	by the user.		
	oove ambient stream tei	mperature is allocated. ⁄alid for Case 1 scenari	os and disabled for C	sea 2 econorios			
				ase 2 scenarios. be used for Case 1 or Case 2)			
	n 110°F are displayed a		onargo now min (may	Do dood for odde 1 or odde 2)			

Attachment D Water Quality Analysis

Outfalls 002, 004 Internal Monitoring Points 103, 203/303, 403, 503, 603

Outfall 002

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.4

Facility: Ch	eswick	NPDES Permit No.:	PA0001627	Outfall:	002
Analysis Hardnes	ss (mg/L): 100	Discharge Flow (MGD):	12.4	Analysis pH (SU):	7

						Aliai	
	Parameter		aximum Concentration in	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
	Total Dissolved Solids		1630000	500000	Yes	Trabel (pgre)	Monitor
7	Chloride			250000			Monitor
8	₹ Bromide		900	N/A	No		Monitor
Ü	Sulfate		638000	250000	Yes		Monitor
	Fluoride			2000			
	Total Aluminum	<	50	750	No		
	Total Antimony	<	10	56	Yes	5.631	Establish Limits
	Total Arsenic	<	10	10	Yes	10.056	Establish Limits
	Total Barium		8.2	2400	No		
	Total Beryllium	<	0.5	N/A	No (Value < QL)		
	Total Boron		1030	1600	No		
	Total Cadmium	<	0.1	0.271	No (Value < QL)		
	Total Chromium			N/A			
	Hexavalent Chromium	<	2	10.4	No		
	Total Cobalt	<	2	19	No		
N	N Total Copper	<	5	93	No		
9	Total Cyanide		7	N/A	No		
5	Total Iron		687	1500	No		
_	Dissolved Iron	<	10	300	No (Value < QL)		
	Total Lead	<	10	32	Yes	3.199	Establish Limits
	Total Manganese		109	1000	No		
	Total Mercury	<	0 005	0.05	No (Value < QL)		
	Total Molybdenum		66	N/A	No		
	Total Nickel	<	5	52.2	No		
	Total Phenols (Phenolics)	<	10	5	Yes		
	Total Selenium	_	2.3	50	No		
	Total Silver	<	2	38	No		
	Total Thallium	<	0.1	0.24	No (Value < QL)		
	Total Zinc	_	9.5	119.8	No (Value < OL)		
	Acrolein	<	2	0.07	No (Value < QL)		
	Acrylamide Acrylonitrile	<	0.5	0.07	No (Value < QL)		
	Benzene	<	0.2	12	No (Value < QL)		
	Bromoform	<	0.2	43	No (Value < QL)		
	Carbon Tetrachloride	_	0.2	0.23	No (Value < QL)		
	Chlorobenzene	<	0.2	130	No (Value < QL)		
	Chlorodibromomethane	<	0.4	0.4	No (Value < QL)		
	Chloroethane	<	0.2	N/A	No (Value < QL)		
	2-Chloroethyl Vinyl Ether	<	0.5	3500	No (Value < QL)		
	Chloroform	<	0.2	5.7	No (Value < QL)		
	Dichlorobromomethane	<	0.2	0.55	No (Value < QL)		
	1,1-Dichloroethane	<	0.2	N/A	No (Value < QL)		
7	1 2-Dichloroethane	<	0.2	0.38	No (Value < QL)		
0	1,1-Dichloroethylene	<	0.2	33	No (Value < QL)		
9	1,2-Dichloropropane	<	0.2	2200	No (Value < QL)		
	1,3-Dichloropropylene	<	0.2	0.34	No (Value < QL)		
	Ethylbenzene	<	0.2	530	No (Value < QL)		
	Methyl Bromide	<	0.5	47	No (Value < QL)		
	Methyl Chloride	<	0.2	5500	No (Value < QL)		
	Methylene Chloride	<	0.2	46	No (Value < QL)		
	1,1,2,2-Tetrachloroethane	<	0.2	0.17	No (Value < QL)		
	Tetrachloroethylene	<	0.2	0.69	No (Value < QL)		
	Toluene	<	0.2	330	No (Value < QL)		
	1,2-trans-Dichloroethylene 1,1,1-Trichloroethane	<	0.5	140	No (Value < QL)		
			0.2	610	No (Value < QL)		
	1 1 2-Trichloroethane Trichloroethylene	<	0.5 0.2	0.59 2.5	No (Value < QL) No (Value < QL)		
	Vinyl Chloride	<	0.2	0.025	No (Value < QL)		
	2-Chlorophenol	<	4.7	81	No (Value < QL)		
	2,4-Dichlorophenol	<	4.7	77	No (Value < QL)		
	2,4-Dimethylphenol	<	4.7	130	No (Value < QL)		
	4,6-Dinitro-o-Cresol	<	4.7	13	No (Value < QL)		
1	2,4-Dinitrophenol	<	4.7	69	No (Value < QL)		
	2-Nitrophenol	<	4.7	1600	No (Value < QL)		
	4-Nitrophenol	<	4.7	470	No (Value < QL)		
9	p-Chloro-m-Cresol	<	4.7	30	No (Value < QL)		
	Pentachlorophenol	<	0 28	0.27	No (Value < QL)		
	Phenol	<	4.7	10400	No (Value < QL)		
	2,4,6-Trichlorophenol	<	4.7	1.4	No (Value < QL)		
-	Acenaphthene	<	4.7	17	No		

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Acenaphthylene	<	4.7	N/A	No		
Anthracene	<	4.7	8300	No		
Benzidine	<	4.7	0.000086	No (Value < QL)		
Benzo(a)Anthracene	<	4.7	0 0038	Yes	0 004	Establish Limits
Benzo(a)Pyrene	<	4.7	0 0038	Yes	0 004	Establish Limits
3,4-Benzofluoranthene	<	4.7	0 0038	Yes	0 004	Establish Limits
Benzo(ghi)Perylene	<	4.7	N/A	No		
Benzo(k)Fluoranthene	<	4.7	0 0038	Yes	0 004	Establish Limits
Bis(2-Chloroethoxy)Methane	<	4.7	N/A	No (Value < QL)		
Bis(2-Chloroethyl)Ether	<	4.7	0.03	No (Value < QL)		
Bis(2-Chloroisopropyl)Ether	<	4.7	1400	No (Value < QL)		
Bis(2-Ethylhexyl)Phthalate	<	1.9	12	No (Value < QL)		
4-Bromophenyl Phenyl Ether	<	4.7	54	No (Value < QL)		
Butyl Benzyl Phthalate	<	4.7	35	No (Value < QL)		
2-Chloronaphthalene	<	4.7	1000	No (Value < QL)		
4-Chlorophenyl Phenyl Ether	<	4.7	N/A	No (Value < QL)		
Chrysene	<	4.7	0 0038	Yes	0 004	Establish Limits
Dibenzo(a,h)Anthrancene	<	4.7	0 0038	Yes	0 004	Establish Limits
1,2-Dichlorobenzene	<	4.7	160	No		
1,3-Dichlorobenzene	<	4.7	69	No		
1,4-Dichlorobenzene	<	4.7	150	No		
3,3-Dichlorobenzidine	<	4.7	0.021	No (Value < QL)		
Diethyl Phthalate	<	4.7	800	No (Value < QL)		
Dimethyl Phthalate	<	4.7	500	No (Value < QL)		
Di-n-Butyl Phthalate	<	4.7	21	No (Value < QL)		
2,4-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
2,6-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
1,4-Dioxane	<	4.7	N/A	No		
Di-n-Octyl Phthalate	<	4.7	N/A	No (Value < QL)		
1,2-Diphenylhydrazine	<	4.7	0.036	No (Value < QL)		
Fluoranthene	<	4.7	40	No		
Fluorene	<	4.7	1100	No		
Hexachlorobenzene	<	4.7	0 00028	No (Value < QL)		
Hexachlorobutadiene	<	4.7	0.44	Yes	0.464	Establish Limits
Hexachlorocyclopentadiene	<	4.7	1	No (Value < QL)		
Hexachloroethane	<	4.7	1.4	No (Value < QL)		
Indeno(1 2 3-cd)Pyrene	<	4.7	0 0038	Yes	0 004	Establish Limits
Isophorone	<	4.7	35	No (Value < QL)		
Naphthalene	<	4.7	43	No		
Nitrobenzene	<	4.7	17	No (Value < QL)		
n-Nitrosodimethylamine	<	4.7	0 00069	No (Value < QL)		
n-Nitrosodi-n-Propylamine	<	4.7	0.005	No (Value < QL)	2 404	E CUELLE S
n-Nitrosodiphenylamine	<	9.3	33	Yes	3.481	Establish Limits
Phenanthrene	<	4.7	1	Yes	1 006	Establish Limits
Pyrene	<	4.7	830	No		
1,2,4-Trichlorobenzene	<	4.7	26	No		

PENTOXSD

Modeling Input Data

Stream Code		Elevation (ft)	Draina Area (sq m	1	Slope	PWSV (mg				pply FC				
3384	6 2.48	1180.00) 1	1.10	0.00000		0.00		[~				
						5	Stream Da	ita						
	LFY			ND Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributar</u> Hard	γ pH	<u>Strean</u> Hard	n pH	<u>Analysi</u> Hard	<u>s</u> pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)		(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.1	0.567	0	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0
						Di	scharge D	ata						
	Name	Permit Number	Existin Disc Flow		ermitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
			(mgd)	(mgd)	(mgd)						(mg/L)		
La	angeloth	PA000421	9 0.024	-	0	0	0	0	0	0	0	100	7	
						Pa	rameter D	ata						
	Parameter N	lame		isc onc	Trib Conc	Disc Daily CV	Hourly	Steam Cond		Fate Coe		Crit Mod	Max Disc Conc	
				g/L)	(μg/L)		(µg/l	L)				(µg/L)	
ANTIMO				500	0	0.5			0	0	0	1	0	
ARSENI				184	0	0.5		0	0	0	0	1	0	
BORON			- 2	2720	0	0.5			0	0	0	1	0	
CADMIU				30	0	0.5		0	0	0	0	1	0	
CHROM				64	0	0.5			0	0	0	1	0	
COBALT				100	0	0.5		0	0	0	0	1	0	
COPPER				100	0	0.5		0	0	0	0	1	0	
	VED IRON			500	0	0.5		0	0	0	0	1	0	
	DE (PWS)			8800		0.5		0	0	0	0	1	0	
LEAD				114	0	0.5			0	0	0	1	0	
MANGA				1950	0	0.5		0	0	0	0	1	0	
NICKEL				750	0	0.5			0	0	0	1	0	
	LICS (PWS)			10	0	0.5		0	0	0	0	1	0	
SELENII				28	0	0.5			0	0	0	1	0	
SILVER				100	0	0.5		0	0	0	0	1	0	
SULFAT	E (PWS)			44	0	0.5	0.5	0	0	0	0	1	0	

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PENTOXSD

Modeling Input Data

Stre Co		Elevation (ft)		inage Area q mi)	Slope	PWS V (mg				pply FC				
42	289 2.81	1 850	0.00	10.69	0.00500		0.00			✓				
						1	Stream Da	ta						
	LFY	Trib Flow	Stream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributar</u> Hard	Σ pH	<u>Strean</u> Hard	n pH	<u>Analysi</u> Hard	<u>s</u> pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)			(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.1	0.1069	0	0	0	0	0	0	100	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0
						Di	ischarge D	ata						
	Name	Perm Numb	per D	sting P lisc low	ermitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
			(n	ngd)	(mgd)	(mgd)						(mg/L)		
	Cheswick	0001627	7-MM 1	2.4	0	0	0	0	0	0	0	100	7	
						Pa	rameter Da							
	Parameter	Name		Disc Conc	Trib Conc	Disc Daily C∨	Hourly	Steam		Fate Coef	FOS	Crit Mod	Conc	
				(µg/L)	(µg/L			(µg/L					(µg/L)	
- 9	ENZOFLUOR	ANTHENE		1E+0	-	0.5		0	0	0	0	1	0	
ANTIN				1E+09	_	0.5		0	0	0	0	1	0	
	NIC O(a)ANTHRA	CENE		1E+0	_	0.5		0	0	0	0	1	0	
	O(a)PYRENE			1E+0	_	0.5		0	0	0	0	1	0	
	O(k)-FLUOR4			1E+0	_	0.5		0	0	0	0	1	0	
	SENE			1E+0	_	0.5		0	0	0	0	1	0	
	NZO(a,h) ANT	HRACENE	Ξ.	1E+0	-	0.5		0	0	0	0	1	0	
	CHLOROBUT			1E+0	9 0	0.5		0	0	0	0	1	0	
INDE	NO(1,2,3-cd)P	YRENE		1E+0	9 0	0.5	0.5	0	0	0	0	1	0	
				1E+0	9 0	0.5	0.5	0	0	0	0	1	0	
LEAD								_		_	_		_	
	ROSODI-PHE	NYLAMIN	E	1E+0	90	0.5	0.5	0	0	0	0	1	0	

Stream Code	RMI	Elevation (ft)	A	inage rea 1 mi)	Slope	PWS V (mg				pply FC				
42289	0.00	770.	00	14.03	0.00600		0.00			✓				
							Stream Da	ıta						
	LFY	Trib :	Stream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributa</u> Hard	pH	Strear Hard	n pH	Analysi Hard	<u>is</u> pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.1	0	0	0	0	0	0	0	100	7	0	0	0	
Qh		0	0	0	0	0	0	0	100	7	0	0	0	
						Di	ischarge D)ata						
1	Name	Permit Numbe	er D	sting P isc low	ermitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
			(m	gd)	(mgd)	(mgd)						(mg/L)		
				0	0	0	0	0	0	0	0	100	7	
							rameter D							
	Parameter N	Vame		Disc Conc	Trib Conc	CV	Hourly		c CV	Fate Coe		Crit Mod	Conc	
0.4.0510	7051110541	UTUENE		(µg/L)	(µg/L			(µg/					(µg/L)	
ANTIMO	ZOFLUORAI	NIHENE		0	0	0.5		_	0	0	0	1	0	
ARSENIO				0	0	0.5		_	0	0	0	1	0	
) B)ANTHRAC	ENE		0	0	0.5			0	0	0	1	0	
)PYRENE			0	0	0.5		_	0	0	0	1	0	
	()-FLUORAN	THENE		0	0	0.5		_	0	0	0	1	0	
CHRYSE				0	0	0.5	0.5	0	0	0	0	1	0	
DIBENZO	D(a,h) ANTH	RACENE		0	0	0.5	0.5	0	0	0	0	1	0	
HEXACH	LOROBUTA	A-DIENE		0	0	0.5	0.5	0	0	0	0	1	0	
INDENO((1,2,3-cd)PY	RENE		0	0	0.5	0.5	0	0	0	0	1	0	
LEAD				0	0	0.5	0.5	0	0	0	0	1	0	
	SODI-PHEN	YLAMINE		0	0	0.5			0	0	0	1	0	
DHENAN	ITHRENE			0	0	0.5	0.5	0	0	0	0	1	0	

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PENTOXSD Analysis Results Hydrodynamics

<u>s</u>	WP Basii	<u>n</u>	Stream	n Code:			Stream	m Name:			
	18A		42	289		I	LITTLE D	EER CR	EEK		
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
					Q7	-10 Hyd	Irodyna	mics			
2.810	0.1069	0	0.1069	19.1828	0.005	0.7578	38.9	51.332	0.6544	0.2624	.001
0.000	0.4409	0	0.4409	NA	0	0	0	0	0	0	NA
					Q	h Hydr	odynan	nics			
2.810	1.0527	0	1.0527	19.1828	0.005	0.7739	38.9	50.262	0.6721	0.2555	.116
0.000	3.632	0	3.632	NA	0	0	0	0	0	0	NA.

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Wasteload Allocations

RMI	Name	Pe	rmit N	umber						
2.81	Cheswick		IMDP -							
2.01	CHOSWICK			- 002		450				
Q7-1	In CCT Im	int	0.00	4 DME		AFC Analysis	nu 7	Anghaig	Hardness	100
Q/-1	0: CCT (m	iin)	0.00		1	-	Fate	Analysis WQC	Hardness WQ	100 WLA
	Parameter			Stream Conc (µg/L)	Stream CV	Conc (µg/L)	Coef	(μg/L)	Obj (µg/L)	WLA (μg/L)
	ANTIMONY			0	0	0	0	1100	1100	1106.13
	ARSENIC			0	0	0	0	340	340	341.895
				Dissolved	WQC. (Chemical tra	anslator of	f 1 applied.		
	LEAD			0	0	0	0	64.581	81.645	82.1
				Dissolved	WQC. (Chemical tra	inslator of	f 0.791 applied.		
BEN	NZO(a)ANTHRAC	ENE		0	0	0	0	0.5	0.5	0.503
E	BENZO(a)PYREN	E		0	0	0	0	NA	NA	NA
3,4-B	ENZOFLUORANT	HEN	E	0	0	0	0	NA	NA.	NA.
BENZ	O(k)-FLUORANT	HEN	E	0	0	0	0	NA	NA	NA
	CHRYSENE			0	0	0	0	NA	NA.	NA.
DIBEN	IZO(a,h) ANTHRA	ACEN	ΙE	0	0	0	0	NA	NA	NA
HEXA	ACHLOROBUTA-I	DIEN	E	0	0	0	0	10	10	10.056
INDE	ENO(1,2,3-cd)PYF	RENE		0	0	0	0	NA	NA.	NA.
N-NITE	ROSODI-PHENYL	AMIN.	NE	0	0	0	0	300	300	301.672
1	PHENANTHREN	Ε		0	0	0	0	5	5	5.028
						CFC				
Q7-10:	CCT (mi	n)	0.001	PMF	1	Analysis	рН 7	Analysis	Hardness	100
	,	,		Stream	Stream	-	Fate	WQC	WQ	WLA
	Parameter			Conc.	CV	Conc.	Coef		Obj	
				(µg/L)		(µg/L)		(µg/L)	(µg/L)	(µg/L)
	ANTIMONY			0	0	0	0	220	220	221.226
	ARSENIC			0	0	0	0	150	150	150.836
				Dissolved		Chemical tra				
	LEAD			0	0	0	0	2.517	3.182	3.199
				Dissolved	WQC.	Chemical tra	inslator of	f 0.791 applied.		
BEN	IZO(a)ANTHRACI	ENE		0	0	0	0	0.1	0.1	0.101

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Wasteload Allocations

RMI	Name	Permit N	lumber						
2.81	Cheswick	MMDP	- 002						
	BENZO(a)PYRENE		0	0	0	0	NA	NA	NA
3,4-E	BENZOFLUORANTI	HENE	0	0	0	0	NA	NA	NA
BEN	ZO(k)-FLUORANTH	HENE	0	0	0	0	NA	NA	NA
	CHRYSENE		0	0	0	0	NA	NA	NA
DIBE	NZO(a,h) ANTHRA	CENE	0	0	0	0	NA	NA	NA
HEX	ACHLOROBUTA-D	IENE	0	0	0	0	2	2	2.011
IND	ENO(1,2,3-cd)PYR	ENE	0	0	0	0	NA	NA	NA
N-NIT	ROSODI-PHENYLA	AMINE	0	0	0	0	59	59	59.329
	PHENANTHRENE		0	0	0	0	1	1	1.006

THH

0.001	PMF	1	Analysis	pH NA	Analysi	s Hardness	NA
	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
	0	0	0	0	5.6	5.6	5.631
	0	0	0	0	10	10	10.056
	0	0	0	0	NA	NA	NA
	0	0	0	0	NA	NA	NA
	0	0	0	0	NA	NA	NA
E	0	0	0	0	NA	NA	NA
Ε	0	0	0	0	NA	NA	NA
	0	0	0	0	NA	NA	NA
E	0	0	0	0	NA	NA	NA
Ε	0	0	0	0	NA	NA	NA
	0	0	0	0	NA	NA	NA
	E E E	Stream Conc (µg/L) 0 0 0 0 0 E 0 E 0 E 0	Stream Conc (µg/L) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Stream Conc (μg/L) Stream CV (μg/L) Trib Conc (μg/L) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 E 0 0 E 0 0 0 0 0 E 0 0 E 0 0 E 0 0 E 0 0	Stream Conc (μg/L) Stream CV Trib Conc (μg/L) Fate Coef (μg/L) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 E 0 0 0 E 0 0 0 E 0 0 0 E 0 0 0 E 0 0 0 E 0 0 0	Stream Conc (μg/L) Stream Cov (μg/L) Trib Conc (μg/L) Fate Coef (μg/L) WQC (μg/L) 0 0 0 0 0 5.6 0 0 0 0 10 0 0 0 0 NA 0 0 0 0 NA 0 0 0 0 NA E 0 0 0 NA	Stream Conc

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Wasteload Allocations

R	MI Name Perm	it Number						
2.	81 Cheswick MM	DP - 002						
N	I-NITROSODI-PHENYLAMINE	0	0	0	0	NA	NA	NA
	PHENANTHRENE	0	0	0	0	NA	NA	NA
			С	RL				
Qh:	CCT (min)	0.116 PMF	1					
	Parameter	Stream Conc	Stream CV	Trib Conc	Fate Coef	WQC	WQ Obj	WLA
	Parameter	(µg/L)	OV	(µg/L)	COBI	(µg/L)	(µg/L)	(µg/L)
	ANTIMONY	0	0	0	0	NA	NA	NA
	ARSENIC	0	0	0	0	NA	NA	NA
	LEAD	0	0	0	0	NA	NA	NA
	BENZO(a)ANTHRACENE	0	0	0	0	0.004	0.004	0.004
	BENZO(a)PYRENE	0	0	0	0	0.004	0.004	0.004
	3,4-BENZOFLUORANTHENE	0	0	0	0	0.004	0.004	0.004
	BENZO(k)-FLUORANTHENE	0	0	0	0	0.004	0.004	0.004
	CHRYSENE	0	0	0	0	0.004	0.004	0.004
I	DIBENZO(a,h) ANTHRACENE	0	0	0	0	0.004	0.004	0.004
	HEXACHLOROBUTA-DIENE	0	0	0	0	0.44	0.44	0.464
	INDENO(1,2,3-cd)PYRENE	0	0	0	0	0.004	0.004	0.004
N	N-NITROSODI-PHENYLAMINE	0	0	0	0	3.3	3.3	3.481
	PHENANTHRENE	0	0	0	0	NA	NA	NA.

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Recommended Effluent Limitations

SWP Basin	Stream Code:	Stream Name:
18A	42289	LITTLE DEER CREEK
RMI	Name	Permit Disc Flow Number (mgd)
2.81	Cheswick	MMDP - 002 12.4000

	Effluent Limit		Max. Daily	Most S	tringent
Parameter	(µg/L)	Governing Criterion	Limit (µg/L)	WQBEL (µg/L)	WQBEL Criterion
3,4-BENZOFLUORANTHENE	0.004	CRL	0.006	0.004	CRL
ANTIMONY	5.631	THH	8.786	5.631	THH
ARSENIC	10.056	THH	15.689	10.056	THH
BENZO(a)ANTHRACENE	0.004	CRL	0.006	0.004	CRL
BENZO(a)PYRENE	0.004	CRL	0.006	0.004	CRL
BENZO(k)-FLUORANTHENE	0.004	CRL	0.006	0.004	CRL
CHRYSENE	0.004	CRL	0.006	0.004	CRL
DIBENZO(a,h) ANTHRACENE	0.004	CRL	0.006	0.004	CRL
HEXACHLOROBUTA-DIENE	0.464	CRL	0.724	0.464	CRL
INDENO(1,2,3-cd)PYRENE	0.004	CRL	0.006	0.004	CRL
LEAD	3.199	CFC	4.991	3.199	CFC
N-NITROSODI-PHENYLAMINE	3.481	CRL	5.431	3.481	CRL
PHENANTHRENE	1.006	CFC	1.569	1.006	CFC

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Internal Monitoring Point 103

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.4

Facility:	Cheswick		NPDES Permit No.:	PA000162	Outfall:	103
Analysis Hard	ness (mg/L):	87	Discharge Flow (MGD):	0.4	Analysis pH (SU):	7

	Parameter		laximum Concentration in pplication or DMRs (µg/L)	Most Stringent Criterion (μg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (μg/L)	Screening Recommendation
	Total Dissolved Solids		, , , , , , , , , , , , , , , , , , ,	500000			
7	Chloride	г		250000			
ᅙ	Bromide	<	100	NÄ	No (Value < QL)		
g		г					
	Fluoride	-		2000			
	Total Aluminum	<	50	750	No		
	Total Antimony	<	10	56	Yes	2504.24	No Limits/Monitoring
	Total Arsenic	<	10	10	Yes	4471.86	No Limits/Monitoring
	Total Barium	<	5	2400	No		
	Total Beryllium	<	0.5	N/A	No (Value < QL)		
	Total Boron	<	10	1600	No (Value < QL)		
	Total Cadmium	<	1	0.244	Yes	55 22	No Limits/Monitoring
	Total Chromium			N/A			
	Hexavalent Chromium	<	2	10.4	No		
	Total Cobalt	<	2	19	No		
7	Total Copper	<	5	83	No		
9	Total Cyanide	<	5	N/A	No (Value < QL)		
9	Total Iron	$ldsymbol{ldsymbol{eta}}$	71.8	1500	No		
_	Dissolved Iron	<	10	300	No (Value < QL)		
	Total Lead	<	10	2.7	Yes	1194.67	No Limits/Monitoring
	Total Manganese	-	3.2	1000	No No O(-lange OL)		
	Total Mercury	<	0.1	0.05	No (Value < QL)		
	Total Molybdenum	<	10	N/A	No		
	Total Nickel Total Phenols (Phenolics)	<	5 10	46.4	No Yes	22435 51	No Limits/Monitoring
	Total Selenium	<	10	5 5 0	Yes	2231.08	No Limits/Monitoring
	Total Silver	<	2	30	No	2231.00	NO LIMITS/MONITORING
	Total Thallium	<	10	0.24	Yes	107 325	No Limits/Monitoring
	Total Zinc	<	4	106.5	No (Value < QL)	107 323	140 Ellintarwormtoring
	Acrolein	<	2	3	No (Value < QL)		
	Acrylamide	<	-	0.07	Tro (raido - GE)		
	Acrylonitrile	<	0.5	0.051	No (Value < QL)		
	Benzene	<	0.2	12	No (Value < QL)		
	Bromoform	<	0.2	43	No (Value < QL)		
	Carbon Tetrachloride	<	0.2	0.23	No (Value < QL)		
	Chlorobenzene	<	0.2	130	No (Value < QL)		
	Chlorodibromomethane	<	0.4	0.4	No (Value < QL)		
	Chloroethane	<	0.2	N/A	No (Value < QL)		
	2-Chloroethyl Vinyl Ether	<	0.5	3500	No (Value < QL)		
	Chloroform	<	0.2	5.7	No (Value < QL)		
	Dichlorobromomethane	<	0.2	0.55	No (Value < QL)		
က	1,1-Dichloroethane	<	0.2 0.2	N/A	No (Value < QL)		
a	1,2-Dichloroethane 1,1-Dichloroethylene	<	0.2	0.38	No (Value < QL) No (Value < QL)		
5	1,2-Dichloropropane	<	0.2	2200	No (Value < QL)		
_	1,3-Dichloropropylene	<	0.2	0.34	No (Value < QL)		
	Ethylbenzene	<	0.2	530	No (Value < QL)		
	Methyl Bromide	<	0.5	47	No (Value < QL)		
	Methyl Chloride	<	0.2	5500	No (Value < QL)		
	Methylene Chloride	<	0.2	46	No (Value < QL)		
	1,1,2,2-Tetrachloroethane	<	0.2	0.17	No (Value < QL)		
	Tetrachloroethylene	<	0.2	0.69	No (Value < QL)		
	Toluene	<	0.2	330	No (Value < QL)		
	1,2-trans-Dichloroethylene	<	0.5	140	No (Value < QL)		
	1,1,1-Trichloroethane	<	0.2	610	No (Value < QL)		
	1 1 2-Trichloroethane	<	0.5	0.59	No (Value < QL)		
	Trichloroethylene	<	0.2	25	No (Value < QL)		
_	Vinyl Chloride	<	0.2	0.025	No (Value < QL)		
	2-Chlorophenol 2 4-Dichlorophenol	<	4.7 4.7	81 77	No (Value < QL) No (Value < QL)		
	2.4-Dichiorophenol 2.4-Dimethylphenol	<	4.7	130	No (Value < QL) No (Value < QL)		
	4,6-Dinitro-o-Cresol	<	4.7	130	No (Value < QL)		
4	2,4-Dinitro-o-cresol	<	4.7	69	No (Value < QL)		
_	2-Nitrophenol	~	4.7	1600	No (Value < QL)		
Group	4-Nitrophenol	<	4.7	470	No (Value < QL)		
ō	p-Chloro-m-Cresol	<	4.7	30	No (Value < QL)		
	Pentachlorophenol	<	4.7	0.27	No (Value < QL)		
	Phenol	<	4.7	10400	No (Value < QL)		
				_			
	2,4,6-Trichlorophenol	<	4.7	1.4	No (Value < QL)		

NPDES Permit Fact Sheet CV-01284-WSS Document 16-1 Filed 01/17/2 NPDES Permit No. 1840001627 Cheswick Generating Station

Acenaphthylene	<	4.7	N/A	No		
Anthracene	<	4.7	8300	No		
Benzidine	<	4.7	0.000086	No (Value < QL)		
Benzo(a)Anthracene	<	0.2	0.0038	No (Value < QL)		
Benzo(a)Pyrene	<	0.1	0.0038	No (Value < QL)		
3.4-Benzofluoranthene	<	0.2	0.0038	No (Value < QL)		
Benzo(ghi)Perylene	<	4.7	N/A	No		
Benzo(k)Fluoranthene	<	0.2	0.0038	No (Value < QL)		
Bis(2-Chloroethoxy)Methane	<	4.7	N/A	No (Value < QL)		
Bis(2-Chloroethyl)Ether	<	4.7	0.03	No (Value < QL)		
Bis(2-Chloroisopropyl)Ether	<	4.7	1400	No (Value < QL)		
Bis(2-Ethylhexyl)Phthalate		12	12	Yes	1467.13	No Limits/Monitoring
4-Bromophenyl Phenyl Ether	<	4.7	54	No (Value < QL)		
Butyl Benzyl Phthalate	<	4.7	35	No (Value < QL)		
2-Chloronaphthalene	<	4.7	1000	No (Value < QL)		
4-Chlorophenyl Phenyl Ether	<	4.7	N/A	No (Value < QL)		
Chrysene	<	0.2	0.0038	No (Value < QL)		
Dibenzo(a,h)Anthrancene	<	0.2	0.0038	No (Value < QL)		
1,2-Dichlorobenzene	<	4.7	160	No		
1,3-Dichlorobenzene	<	4.7	69	No		
1,4-Dichlorobenzene	<	4.7	150	No		
3,3-Dichlorobenzidine	<	4.7	0.021	No (Value < QL)		
Diethyl Phthalate	<	4.7	800	No (Value < QL)		
Dimethyl Phthalate	<	4.7	500	No (Value < QL)		
Di-n-Butyl Phthalate	<	4.7	21	No (Value < QL)		
2,4-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
2,6-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
1,4-Dioxane	<	4.7	N/A	No		
Di-n-Octyl Phthalate	<	4.7	N/A	No (Value < QL)		
1,2-Diphenylhydrazine	<	4.7	0.036	No (Value < QL)		
Fluoranthene	<	4.7	40	No		
Fluorene	<	4.7	1100	No		
Hexachlorobenzene	<	4.7	0 00028	No (Value < QL)		
Hexachlorobutadiene	<	4.7	0.44	Yes	292.39	No Limits/Monitoring
Hexachlorocyclopentadiene	<	4.7	1	No (Value < QL)		
Hexachloroethane	<	4.7	1.4	No (Value < QL)		
Indeno(1,2,3-cd)Pyrene	<	0.2	0.0038	No (Value < QL)		
Isophorone	<	4.7	35	No (Value < QL)		
Naphthalene	<	4.7	43	No No Ofalisa (OL)		
Nitrobenzene	<	4.7	17	No (Value < QL)		
n-Nitrosodimethylamine	<	4.7	0 00069	No (Value < QL)		
n-Nitrosodi-n-Propylamine	<	4.7	0.005	No (Value < QL)	4024 50	No Lineau Manageria
n-Nitrosodiphenylamine	<	9.3	33	Yes	4034.59	No Limits/Monitoring
Phenanthrene	<	4.7	1	Yes	149.2	No Limits/Monitoring
Pyrene	<	4.7	830	No		
1,2,4-Trichlorobenzene	<	4.7	26	No		

PENTOXSD

Mod	lelino	Input	Data
INIO	16 mm	4 IIIDUL	Data

				Mod	leling Inp	out Data	1					
m RMI e	Elevation (ft)	Drainage Area (sq mi)	Slope									
22 15.75	734.80	11500.0	0.0000	0	0.00		[✓				
					Stream Da	ıta						
LFY				Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributar</u> Hard	Σ pH	<u>Strean</u> Hard	<u>p</u> H		e PH
(cfsm)	(cfs) (c	fs)	(ft)	(ft)	(fps)		(mg/L)		(mg/L)		(mg/L)	
0.1	2761	0	0 870	7	0	0	87	7	0	0	0	0
	0	0	0 0	0	0	0	100	7	0	0	0	0
				D	ischarge D	ata						
Name	Permit Number	Existing Disc Flow	Permitted Disc Flow		_		CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
		(mgd)	(mgd)	(mgd)	_					(mg/L)	_	
Cheswick	103	0.4	0	0	0	0.01	0.1	0.1	0.1	165	7	
				Pa	rameter D	ata						
Parameter I	Name	Con	c Con	c Daily	Hourl	y Cond	CV			Crit Mod	Conc	
NUM					5 0.5		0	0	0	1	0	
ONY		1E+1	11 0	0.5	5 0.5	0	0	0	0	1	0	
IIC		1E+	11 0	0.5	5 0.5	0	0	0	0	1	0	
M		1E+1	11 0	0.9	5 0.5	0	0	0	0	1	0	
THYLHEXYL	.) PHTHALAT	E 1E+(0		0	1	0	
V								_			_	
UM		1E+	_				_	_			_	
ROFORM		_	-			_	_	_	_			
,									_		_	
			_					_			_	
								_	_			
			_								_	
	DIENE										_	
/ILUKUBU I	4-DIENE											
м											_	
L												
_	NYLAMINE	-				_	_	_	_		_	
NTHRENE						_	0	0	0	1	0	
			-			_		_			_	
IUM			_			_		0		1		
₹			-			_	0	0	0	1	0	
IUM							0	0	0	1	0	
IRON		1E+	11 0	0.5	5 0.5	0	0	0	0	1	0	
	LFY (cfsm) 0.1 Name Cheswick Parameter I NUM ONY IIC M THYLHEXYL M UM OFORM MIUM, VI T. ER DE, FREE LVED IRON HLOROBUTA M ANESE JRY LOSODI-PHEI INTHRENE DILICS (PWS) IUM N UM	te (fft) 22 15.75 734.80 Trib Stra LFY Flow Fi (cfsm) (cfs) (cfs) (cfs) (cfs) Name Permit Number Cheswick 103 Parameter Name NUM ONY IIC M STHYLHEXYL) PHTHALATI N UM OFORM MIUM, VI T. ER DE, FREE LVED IRON HLOROBUTA-DIENE M ANESE JRY LOSODI-PHENYLAMINE INTHRENE DLICS (PWS) IUM R UM N UM N N N N N N N N N N N N N N N N	Company Comp	Company Comp	RMI	RMI	RMI	Contact	RMI	RMI	RM RM Elevation Drainage (ft) Area (sq mi) Rose PWS With (mg d) Rose Rose	RM RM Elevation Drainage (ft) Range (graph of the part) Reserve (ft) Reserve (ft)

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ZINC				1E+11	0	0.	5 0.5	0	0	0	0	1	0	
Stream Code	RMI	Elevati (ft)		Drainage Area	Slope	PWS	With	0	Aţ	oply FC	0		0	
42122	15.00	73	4.00	(sq mi) 11550.00	0.00000		0.00		[✓				
							Stream Da	ıta						
	LFY	Trib Flow	Stre		Rch Width	Rch Depth	Rch Velocity	Rch Trav	<u>Tributar</u> Hard	У pH	Strear Hard	n pH	<u>Analysi</u> Hard	<u>is</u> pH
	(cfsm)	(cfs)	(cf	(s)	(ft)	(ft)	(fps)	Time (days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.1	0		0 0	0	0	0	0	87	7	0	0	0	(
Qh		0		0 0	0	0	0	0	100	7	0	0	0	(
-							ischarge [ata						
N	ame	Pern Num		Existing Po Disc Flow	ermitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
					(mgd)	(mgd)			_			(mg/L)		
				0	0	0	0	0	0	0	0	100	7	
F	Parameter N	Name		Disc Conc	Trib Conc	Dis Daily C\	y Hourt	Steam y Cond	: CV	Fate Coef		Crit Mod	Conc	
ALUMINU	м			(µg/L)	(µg/L 0	.) O.	5 0.5	(µg/L 0	-)	0	0	1	(µg/L) 0	
ANTIMON				0	0	0.			0	0	0	1	0	
ARSENIC	;			0	0	0.	5 0.5	0	0	0	0	1	0	
BARIUM				0	0	0.	5 0.5	0	0	0	0	1	0	
-	TYLHEXYL) PHTHA	LATE		0	0.			0	0	0	1	0	
BORON				0	0	0.			0	0	0	1	0	
CADMIUN				0	0	0.			0	0	0	1	0	
CHLORO				0	0	0. 0.			0	0	0	1	0	
COBALT	, vi			0	0	0.			0	0	0	1	0	
COPPER				0	0	0.			0	0	0	1	0	
CYANIDE	, FREE			0	0	0.	5 0.5	0	0	0	0	1	0	
DISSOLV	ED IRON			0	0	0.	5 0.5	0	0	0	0	1	0	
HEXACHL	OROBUTA	A-DIENE		0	0	0.	5 0.5	0	0	0	0	1	0	
LEAD				0	0	0.			0	0	0	1	0	
LITHIUM				0	0	0.			0	0	0	1	0	
MANGAN				0	0	0.			0	0	0	1	0	
MERCUR' NICKEL	ī			0	0	0.			0	0	0	1	0	
	SODI-PHEN	IYI AMIN	JF.	0	0	0.			0	0	0	1	0	
PHENANT			_	0	0	0.			0	0	0	1	0	
	CS (PWS)			0	0	0.			0	0	0	1	0	
SELENIU				0	0	0.			0	0	0	1	0	
SILVER				0	0	0.	5 0.5	0	0	0	0	1	0	
THALLIUN	M			0	0	0.	5 0.5	0	0	0	0	1	0	

Monday, December 18, 2017

Hydrodynamics

<u>s</u>	WP Basii	<u>n</u>	Stream	n Code:			Stream	m Name	:		
	18A		42	122			ALLEGH	ENY RIV	ÆR		
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
					Q7-	10 Hy	drodyna	mics			
15.750	2761	0	2761	0.61879	0.0002	7	870	124.29	0.4535	0.1011	1000+
15.000	2766	0	2766	NA	0	0	0	0	0	0	NA
					Q	h Hydr	odynan	nics			
15.750	7559.3	0	7559.3	0.61879	0.0002	10.903	870	79.797	0.7970	0.0575	1000+
15.000	7571.3	0	7571.3	NA	0	0	0	0	0	0	NΑ

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Wasteload Allocations

RMI	Name	Permit Nu	mber						
15.75	Cheswick	103							
					AFC				
Q7-10:	CCT (mi	n) 15	PMF	0.009	Analysis	врН	7 Analys	sis Hardness	88.709
	Parameter		Stream Conc (µg/L)	Stream CV	n Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
	ANTIMONY		0	0	0	0	1100	1100	50180.48
	ARSENIC		0	0	0	0	340	340	15510.33
			Dissolved	WQC.	Chemical tr	anslator	of 1 applied.		
	CADMIUM		0	0	0	0	1.792	1.889	86.155
		[Dissolved	WQC.	Chemical tr	anslator	of 0.949 appli	ed.	
	LEAD		0	0	0	0	56.67	70.097	3197.718
			Dissolved	WQC.	Chemical tr	anslator	of 0.808 appli	ed.	
	SELENIUM		0	0	0	0	NA.	NA.	NA
	OLLLI II OM								
	THALLIUM		0	0	0	0	65	65	2965.21
BIS(2-ETH	YLHEXYL) PHTI	HALATE	0	0	0	0	4500	4500	205283.8
HEXAC	HLOROBUTA-D	IENE	0	0	0	0	10	10	456.186
N-NITRO	SODI-PHENYLA	AMINE	0	0	0	0	300	300	13685.58
PH	HENANTHRENE		0	0	0	0	5	5	228.093
1	MANGANESE		0	0	0	0	NA	NA	NA
					CFC				
Q7-10:	CCT (min	720	PMF	0.1	Analysis	s pH	7 Analy	sis Hardness	87.174
4	Parameter	-	Stream Conc.	Stream	m Trib	Fate Coef	wac	WQ Obi	WLA
			(µg/L)		(µg/L)		(µg/L)	(μg/Ĺ)	(μg/L)
	ANTIMONY		0	0	0	0	220	220	98380.96
	ARSENIC		0 Dissolved	0 WOC	0 Chemical tr	0 ansiator	150 of 1 applied.	150	67077.93
	CADMIUM		0	0	0	0	0.224	0.244	109.317
	SADIMON		_	_	_	_	of 0.915 appli		100.017
	LEAD) Issoiveu 0	Wac.	Onemical tr	0	01 U.915 appii 2.167	2.672	1194.671
	LEAD		_	-	-		of 0.811 appli		1134.071
	CELENIUM	L							2224 004
	SELENIUM		0	0	0	0	4.6	4.989	2231.081
	W1 4 4 4 4 4 4 4 4						of 0.922 appli		
	THALLIUM		0	0	0	0	13	13	5813.42

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Wasteload Allocations

RMI	Name Per	mit Nu	umber						
15.75	Cheswick	103	}						
BIS(2-ETH	TYLHEXYL) PHTHALA	TE	0	0	0	0	910	910	40693
HEXAC	CHLOROBUTA-DIENE		0	0	0	0	2	2	894.3
NUMBER	OSODI-PHENYLAMIN	F	0	0	0	0	59	59	26383
14-141110	330DI4FTIEITY DAIVIITY	_							20000
P	HENANTHRENE		0	0	0	0	1	1	447.1
	MANGANESE		0	0	0	0	NA	NA	NA
				т	нн				
Q7-10:	CCT (min)	720	PMF	0.1	Analysis	pH NA	Analysis	s Hardness	NA
	Parameter		Stream	Stream CV	Trib Conc	Fate Coef	WQC	WQ Obi	WLA
	Parameter		(µg/L)	CV	(µg/L)	Coer	(µg/L)	(µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	5.6	5.6	2504.2
	ARSENIC		0	0	0	0	10	10	4471.8
	CADMIUM		0	0	0	0	NA	NA	NA
	LEAD		0	0	0	0	NA	NA	NA
	SELENIUM		0	0	0	0	NA	NA	NA
	THALLIUM		0	0	0	0	0.24	0.24	107.3
BIS(2-ETI	HYLHEXYL) PHTHALA	ATE	0	0	0	0	NA	NA	NA
HEXA	CHLOROBUTA-DIENE	Ē	0	0	0	0	NA	NA	NA
N-NITR	OSODI-PHENYLAMIN	ΙE	0	0	0	0	NA	NA	NA
P	HENANTHRENE		0	0	0	0	NA	NA	NA
	MANGANESE		0	0	0	0	1000	1000	44718
				c	RL				
Qh:	CCT (min)	720) PMF	0.1					
	Parameter		Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L
			(PG/L)		(P9/L)		(µg/L)	(pg/L)	(µg/L

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Wasteload Allocations

RMI	Name	Permit Num	ber						
15.75	Cheswick	103							
	ARSENIC		0	0	0	0	NA.	NA	NA
	CADMIUM		0	0	0	0	NA	NA	NA
	LEAD		0	0	0	0	NA	NA	NA
	SELENIUM		0	0	0	0	NA	NA	NA
	THALLIUM		0	0	0	0	NA	NA	NA
BIS(2-ET	THYLHEXYL) PH	THALATE	0	0	0	0	1.2	1.2	1467.125
HEXA	CHLOROBUTA-	DIENE	0	0	0	0	0.44	0.44	537.946
N-NITF	ROSODI-PHENYI	LAMINE	0	0	0	0	3.3	3.3	4034.594
	PHENANTHREN	E	0	0	0	0	NA	NA	NA
	MANGANESE		0	0	0	0	NA.	NA	NA

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Recommended Effluent Limitations

SWP B	asin Stream Code:		Stream Name:
184	42122		ALLEGHENY RIVE
RMI	Name	Permit Number	Disc Flow (mgd)
15.75	Cheswick	103	0.4000

	Effluent Limit		Max. Daily	Most S	tringent
Parameter	(µg/L)	Governing Criterion	Limit (µg/L)	WQBEL (µg/L)	WQBEL Criterion
ANTIMONY	2504.243	THH	3907.021	2504.243	THH
ARSENIC	4471.862	THH	6976.823	4471.862	THH
BIS(2-ETHYLHEXYL) PHTHALATE	1467.125	CRL	2288.951	1467.125	CRL
CADMIUM	55.222	AFC	86.155	55.222	AFC
HEXACHLOROBUTA-DIENE	292.397	AFC	456.186	292.397	AFC
LEAD	1194.671	CFC	1863.878	1194.671	CFC
MANGANESE	447186.2	THH	697682.3	447186.2	THH
N-NITROSODI-PHENYLAMINE	4034.594	CRL	6294.616	4034.594	CRL
PHENANTHRENE	146.198	AFC	228.093	146.198	AFC
SELENIUM	2231.081	CFC	3480.845	2231.081	CFC
THALLIUM	107.325	THH	167.444	107.325	THH

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Internal Monitoring Point 203/303

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.4

Facility:	Cheswick		NPDES Permit No.:	PA0001627	Outfall:	303
Analysis Hard	dness (mg/L):	87	Discharge Flow (MGD):		Analysis pH (SU):	7

-	s (mg/L): 87			Discharge Flow (M			yolo pri (00).
	Parameter		aximum Concentration in	Most Stringent	Candidate for	Most Stringent WQBEL (μg/L)	Screening Recommendation
Total Dissolved Sol	lide	A	pplication or DMRs (µg/L) 180000	Criterion (µg/L) 500000	PENTOXSD Modeling? No	WQBEL (µg/L)	Recommendation
Chloride	iius		100000	250000	NO		
Bromide			100	N/A	No		
Sulfate			55000	250000	No		
Fluoride				2000			Screening Recommendation No Limits/Monitoring No Limits/Monitoring No Limits/Monitoring No Limits/Monitoring Monitor
Total Aluminum			636	750	No		
Total Antimony		<	10	56	Yes	838.48	No Limits/Monitoring
Total Arsenic		<	10	10	Yes	1497.29	
Total Barium			47.4	2400	No		
Total Beryllium			0.5	N/A	No (Value < QL)		
Total Boron			133	1600	No		
Total Cadmium		<	1	0.244	Yes	19 92	No Limits/Monitorin
Total Chromium				N/A			
Hexavalent Chromi	ium	<	2	10.4	No		
Total Cobalt		<	2	19	No		
Total Copper		<	5	83	No		
Total Cyanide		<	5	N/A	No (Value < QL)		
Total Iron			1000	1500 300	No No		
Dissolved Iron Total Lead		<	28 10	2.7	No Yes	402.03	No Limite/Monitorin
Total Manganese			247	1000	Yes No	402.03	NO LIMILS/MONITORN
Total Mercury		<	0.1	0.05	No (Value < QL)		
Total Molybdenum		<	10	N/A	No		
Total Nickel		<	5	46.4	No		
Total Phenols (Phe	nolics)	<	10	5	Yes	747.02	No Limits/Monitoring
Total Selenium		<	10	50	Yes		
Total Silver		<	2	30	No		
Total Thallium		<	10	0.24	Yes	35 93	Monitor
Total Zinc		\blacksquare	10	106.5	No		
Acrolein		<	2	3	No (Value < QL)		
Acrylamide		<	0.5	0.07	No Moleco d OLA		
Acrylonitrile Benzene		<	0.5 0.2	0.051 1 2	No (Value < QL) No (Value < QL)		
Bromoform		<	0.2	43	No (Value < QL)		
Carbon Tetrachloric	de	<	0.2	0.23	No (Value < QL)		
Chlorobenzene		<	0.2	130	No (Value < QL)		
Chlorodibromometh	hane	<	0.4	0.4	No (Value < QL)		
Chloroethane		<	0.2	N/A	No (Value < QL)		
2-Chloroethyl Vinyl	Ether	<	0.5	3500	No (Value < QL)		
Chloroform		<	0.2	5.7	No (Value < QL)		
Dichlorobromometh		<	0.2	0.55	No (Value < QL)		
1,1-Dichloroethane		<	0.2	N/A	No (Value < QL)		
1,2-Dichloroethane		<	0.2 0.2	0.38	No (Value < QL)		
1.2-Dichloroethylen		<	0.2	33 2200	No (Value < QL) No (Value < QL)		
1,3-Dichloropropyle		<	0.2	0.34	No (Value < QL)		
Ethylbenzene	SIIC	<	0.2	530	No (Value < QL)		
Methyl Bromide		<	0.5	47	No (Value < QL)		
Methyl Chloride		<	0.2	5500	No (Value < QL)		
Methylene Chloride	•	<	0.2	46	No (Value < QL)		
1,1,2,2-Tetrachloro		<	0.2	0.17	No (Value < QL)		
Tetrachloroethylene	е	<	0.2	0.69	No (Value < QL)		
Toluene		<	0.2	330	No (Value < QL)		
1,2-trans-Dichloroe		<	0.5	140	No (Value < QL)		
1,1,1-Trichloroetha		<	0.2	610	No (Value < QL)		
1,1,2-Trichloroetha	ne	<	0.5 0.2	0.59	No (Value < QL)		
Trichloroethylene Vinyl Chloride		<	0.2	2.5 0.025	No (Value < QL) No (Value < QL)		
2-Chlorophenol		<	4.7	81	No (Value < QL)		
2,4-Dichlorophenol		<	4.7	77	No (Value < QL)		
2,4-Dimethylphenol		<	4.7	130	No (Value < QL)		
4,6-Dinitro-o-Creso		<	4.7	13	No (Value < QL)		
2,4-Dinitrophenol		<	4.7	69	No (Value < QL)		
2-Nitrophenol		<	4.7	1600	No (Value < QL)		
4-Nitrophenol		<	4.7	470	No (Value < QL)		

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Ш	p-Chloro-m-Cresol	<	4.7	30	No (Value < QL)	
	Pentachlorophenol	\	4.7	0.27	No (Value < QL)	
	Phenol	٧	4.7	10400	No (Value < QL)	
	2,4,6-Trichlorophenol	<	4.7	1.4	No (Value < QL)	

PENTOXSD

Modeling	Input	Data

Stream Code	RMI	Elevatio (ft)	n I	Drainage Area (sq mi)	,	Slope	PWS W	_			Apply FC				
42122	15.75	734.	80	11500.0	00	0.00000		0.00			v				
							S	tream Da	ıta						
	LFY	Trib Flow	Strea Flo			Rch Width	Rch Depth \	Rch /elocity	Rch Trav Time	<u>Trib</u> Hard	<u>utary</u> pH	Strea Hard	<u>m</u> pH	<u>Analysis</u> Hard	<u>s</u> pH
	(cfsm)	(cfs)	(cfs	3)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.1	2761		0	0	870	7	0	0	87	7	0	0	0	
Qh		0		0	0	0	0	0	0	100	7	0	0	0	
							Dis	scharge D)ata						
N	ame	Permit Numbe		Existing Disc Flow		rmitted Disc Flow		Reserve Factor		CFC PMF		CRL PMF	Disc Hard	Disc pH	
				(mgd)	(1	mgd)	(mgd)						(mg/L)		
Che	eswick	103		0.4		0	0	0	0.01	0.1	0.1	0.1	165	7	
							Pai	rameter D	ata						
F	Parameter N	Name		Disc Con (µg/l	nc	Trib Conc (µg/L)	Disc Daily C√	Disc Hourly CV	Stear y Con (µg/	c C			S Crit Mod	Max I Disc Conc (μg/L)	
ALUMINU	М			1E+		(Pg/L)	0.5	0.5			0 0	0	1	0	
ANTIMON				1E+		0	0.5				0 0		1	0	
ARSENIC				1E+	-11	0	0.5	0.5	0		0 0	0	1	0	
BARIUM				1E+	11	0	0.5	0.5	0		0 0	0	1	0	
BIS(2-ETI	YLHEXYL) PHTHAL	ATE	1E+	-08	0	0.5	0.5	0		0 0	0	1	0	
BORON				1E+	11	0	0.5	0.5	0		0 0	0	1	0	
CADMIUM	1			1E+	-11	0	0.5	0.5	0		0 0	0	1	0	
CHLOROF	FORM			1E+	11	0	0.5	0.5	0		0 0	0	1	0	
CHROMIU	JM, VI			1E+	-11	0	0.5	0.5			0 0		1	0	
COBALT				1E+		0	0.5				0 0		1	0	
COPPER				1E+		0	0.5				0 0	_	1	0	
CYANIDE				1E+		0	0.5				0 0		1	0	
DISSOLVE				1000			0.5				0 0		1	0	
	OROBUTA	A-DIENE		1E+		0	0.5				0 0	_	1	0	
LEAD				1E+	-	0	0.5		_		0 0	_	1	0	
LITHIUM	ECE			1E+	-	0	0.5		_		0 0	_	1	0	
MANGANI MERCUR				1E+		0	0.5		_		0 0		1	0	
	1			1E+		0	0.5				0 0		1	0	
VICKEL	SODI-PHEN	IVI AMINIE		1E+ 1E+		0	0.5 0.5				0 0		1	0	
PHENANT		4 I LAWIINE		1E+		0	0.5				0 0	_	1	0	
											0 0		1		
	CS (PWS)			1E+		0	0.5 0.5		_		0 0		1	0	
SELENIUN SILVER	WI			1E+		0	0.5		_		0 0	_	1	0	
	4					0	0.5				0 0		1	0	
THALLIUN	VI			1E+	11	U	U.5	U.5	· u				1	U	

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ZINC				1	E+11	0	0.5	5 0.5	0	0	0	0	1	0	
Stream Code	RMI	Elevat (ft)		Draina Are (sq n	a	Slope	PWS (mg				ply				
42122	15.00	73	4.00			0.00000		0.00		[/				
								Stream Da	ıta						
	LFY	Trib Flow	Stre Flo		WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributar</u> Hard	Σ pH	Stream Hard) pH	<u>Analysis</u> Hard	<u>§</u> pH
	(cfsm)	(cfs)	(ct	s)		(ft)	(ft)	(fps)		(mg/L)		(mg/L)	((mg/L)	
Q7-10	0.1	0		0	0	0	0	0	0	87	7	0	0	0	(
Qh		0		0	0	0	0	0	0	100	7	0	0	0	(
							D	ischarge D	ata						
1	Name	Perr Num		Existir Disc Flov	_	ermitted Disc Flow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
				(mgd	i)	(mgd)	(mgd)						(mg/L)		
				0		0	0	0	0	0	0	0	100	7	
								arameter D							
	Parameter N	lame		(Disc Conc ug/L)	Trib Conc (µg/L)	Disc Daily C\	/ Hourly	Stean Cond (µg/L	: CV	Fate Coef		Crit Mod	Max Disc Conc (µg/L)	
ALUMINI	JM			U	0	(pg/L)	0.:	5 0.5		0	0	0	1	(µg/L)	
ANTIMO	NY				0	0	0.5	5 0.5	0	0	0	0	1	0	
ARSENIC					0	0	0.5	5 0.5	0	0	0	0	1	0	
BARIUM					0	0	0.5			0	0	0	1	0	
-	HYLHEXYL) PHTH/	ALATE		0	0	0.5			0	0	0	1	0	
BORON CADMIU					0	0	0.9			0	0	0	1	0	
CHLORO					0	0	0.5			0	0	0	1	0	
CHROMI					0	0	0.5			0	0	0	1	0	
COBALT					0	0	0.5			0	0	0	1	0	
COPPER	ł				0	0	0.5	5 0.5	0	0	0	0	1	0	
CYANID					0	0	0.5	5 0.5	0	0	0	0	1	0	
	/ED IRON				0	0	0.			0	0	0	1	0	
	LOROBUTA	-DIENE			0	0	0.:			0	0	0	1	0	
LEAD					0	0	0.5			0	0	0	1	0	
LITHIUM					0	0	0.9			0	0	0	1	0	
MERCUF					0	0	0.5			0	0	0	1	0	
NICKEL					0	0	0.5			0	0	0	1	0	
	SODI-PHEN	IYLAMI	NE		0	0	0.5			0	0	0	1	0	
PHENAN	THRENE				0	0	0.5			0	0	0	1	0	
PHENOL	ICS (PWS)				0	0	0.5	5 0.5	0	0	0	0	1	0	
SELENIU	JM				0	0	0.5	5 0.5		0	0	0	1	0	
SILVER					0	0	0.5			0	0	0	1	0	
THALLIII	M				0	0	0.5	5 0.5	0	0	0	0	1	0	
THALLIU TOTAL IF					0	0	0.5			0	0	0	1	0	

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PENTOXSD Analysis Results Hydrodynamics

SI	WP Basir	1	Stream	n Code:		Stream Name:						
	18A 42122											
RMI	Stream PWS Flow With (cfs) (cfs)		With Stream Analysis F Flow Flow		Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity Trav Time (fps) (days)		CMT (min)	
Q7-10 Hydrodynamics												
15.750	2761	0	2761	0.61879	0.0002	7	870	124.29	0.4535	0.1011	1000+	
15.000	2766	0	2766	NA	0	0	0	0	0	0	NA	
Qh Hydrodynamics												
15.750	7559.3	0	7559.3	0.61879	0.0002	10.903	870	79.797	0.7970	0.0575	1000+	
15.000	7571.3	0	7571.3	NA	0	0	0	0	0	0	NA	

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Wasteload Allocations

				· · · · ·	noud And	/cution			
RMI	Name	Permit Nu	ımber						
15.75	Cheswick	103							
					AFC				
Q7-10:	CCT (mi	in) 15	PMF	0.009	Analysis	рН 7	7 Analysis	s Hardness	88.709
	Parameter		Stream	Stream	n Trib Conc	Fate Coef	WQC	WQ Obj	WLA
	T didiriotoi		(µg/L)	0.	(µg/L)	0001	(µg/L)	(µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	1100	1100	50180.48
	ARSENIC		0	0	0	0	340	340	15510.33
		[Dissolved	WQC.	Chemical tra	anslator o	f 1 applied.		
	CADMIUM		0	0	0	0	1.792	1.889	86.155
		[Dissolved	WQC.	Chemical tra	anslator o	f 0.949 applied	d.	
	LEAD		0	0	0	0	56.67	70.097	3197.718
		[Dissolved	WQC.	Chemical tra	anslator o	f 0.808 applied	d.	
	SELENIUM		0	0	0	0	NA	NA	NA
	THALLIUM		0	0	0	0	65	65	2965.21
BIS(2-ETHY	YLHEXYL) PHT	HALATE	0	0	0	0	4500	4500	205283.8
HEXAC	HLOROBUTA-D	DIENE	0	0	0	0	10	10	456.186
N-NITRO	SODI-PHENYL	AMINE	0	0	0	0	300	300	13685.58
PH	ENANTHRENE		0	0	0	0	5	5	228.093
l.	MANGANESE		0	0	0	0	NA	NA	NA
					CFC				
Q7-10:	CCT (mir	n) 720	PMF	0.1	Analysis	pH 7	Analysi	is Hardness	87.174
	Parameter		Stream Conc.	Stream	m Trib Conc.	Fate Coef	WQC	WQ Obi	WLA
			(µg/L)		(µg/L)		(µg/L)	(µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	220	220	98380.96
	ARSENIC		0	0	0	0	150	150	67077.93
		[Dissolved	WQC.	Chemical tra	anslator o	f 1 applied.		
	CADMIUM		0	0	0	0	0.224	0.244	109.317
		[Dissolved	WQC.	Chemical tra	anslator o	f 0.915 applied	d.	
	LEAD		0	0	0	0	2.167	2.672	1194.671
		[Dissolved	WQC.	Chemical tra	anslator o	f 0.811 applied	d.	
	SELENIUM				0	0	4.6	4.989	2231.081
	1	Dissolved	WQC.	0 0 0 4.6 4.989 QC. Chemical translator of 0.922 applied.					
	THALLIUM		0	0	0	0	13	13	5813.42

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Wasteload Allocations

				Trasten	Jau Allo	cations					
RMI	Name	Permit N	umber								
15.75	Cheswick	103	3								
BIS(2-ET	HYLHEXYL) PHTHA	ALATE	0	0	0	0	910	910	406939.4		
HEXA	CHLOROBUTA-DIE	NE	0	0	0	0	2	2	894.372		
N-NITR	OSODI-PHENYLAN	MINE	0	0	0	0	59	59	26383.98		
F	PHENANTHRENE		0	0	0	0	1	1	447.186		
	MANGANESE		0	0	0	0	NA	NA	NA		
тнн											
Q7-10:	CCT (min)	720	PMF	0.1	Analysis	pH NA	Analysis	s Hardness	NA		
	Parameter		Stream	Stream CV	Trib Conc	Fate Coef	WQC	WQ Obj	WLA		
	Parameter		(µg/L)	0.	(µg/L)	0001	(µg/L)	(µg/L)	(µg/L)		
	ANTIMONY		0	0	0	0	5.6	5.6	2504.243		
	ARSENIC		0	0	0	0	10	10	4471.862		
	CADMIUM		0	0	0	0	NA	NA	NA		
	LEAD		0	0	0	0	NA	NA	NA		
	SELENIUM		0	0	0	0	NA	NA	NA		
	THALLIUM		0	0	0	0	0.24	0.24	107.325		
BIS(2-ET	'HYLHEXYL) PHTH	ALATE	0	0	0	0	NA	NA	NA		
HEXA	CHLOROBUTA-DIE	ENE	0	0	0	0	NA	NA	NA		
N-NITE	ROSODI-PHENYLA!	MINE	0	0	0	0	NA	NA	NA		
F	PHENANTHRENE		0	0	0	0	NA	NA	NA		
	MANGANESE		0	0	0	0	1000	1000	447186.2		
				C	CRL						
Qh:	CCT (min)	720	PMF	0.1							
	Parameter		Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)		
	ANTIMONY		0	0	0	0	NA.	NA.	NA		
	231111111111111					_		140	110		

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Wasteload Allocations

RMI	Name	Permit Nun	nber						
15.75	Cheswick	103							
	ARSENIC		0	0	0	0	NA	NA	NA
	CADMIUM		0	0	0	0	NA	NA	NA
	LEAD		0	0	0	0	NA	NA	NA
	SELENIUM		0	0	0	0	NA	NA	NA
	THALLIUM		0	0	0	0	NA	NA	NA
BIS(2-E	THYLHEXYL) PH	THALATE	0	0	0	0	1.2	1.2	1467.125
HEXA	ACHLOROBUTA	DIENE	0	0	0	0	0.44	0.44	537.946
N-NITI	ROSODI-PHENY	LAMINE	0	0	0	0	3.3	3.3	4034.594
	PHENANTHREN	ΙE	0	0	0	0	NA	NA	NA
	MANGANESE		0	0	0	0	NA	NA	NA

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Recommended Effluent Limitations

SWP Basin	Stream Code:		Stream Nam	ie:
18A	42122		ALLEGHENY R	IVER
RMI	Name	Permit Number	Disc Flow (mgd)	
15.75	Cheswick	103	0.4000	

	Effluent Limit		Max. Daily	Most S	tringent
Parameter	(µg/L)	Governing Criterion	Limit (µg/L)	WQBEL (µg/L)	WQBEL Criterion
ANTIMONY	2504.243	THH	3907.021	2504.243	THH
ARSENIC	4471.862	THH	6976.823	4471.862	THH
BIS(2-ETHYLHEXYL) PHTHALATE	1467.125	CRL	2288.951	1467.125	CRL
CADMIUM	55.222	AFC	86.155	55.222	AFC
HEXACHLOROBUTA-DIENE	292.397	AFC	456.186	292.397	AFC
LEAD	1194.671	CFC	1863.878	1194.671	CFC
MANGANESE	447186.2	THH	697682.3	447186.2	THH
N-NITROSODI-PHENYLAMINE	4034.594	CRL	6294.616	4034.594	CRL
PHENANTHRENE	146.198	AFC	228.093	146.198	AFC
SELENIUM	2231.081	CFC	3480.845	2231.081	CFC
THALLIUM	107.325	THH	167.444	107.325	THH

Internal Monitoring Point 403

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.4

Facility:	Cheswick		NPDES Permit No.:	PA0001627	Outfall:	403
Analysis Hard	dness (mg/L):	87	Discharge Flow (MGD):	1.23	Analysis pH (SU):	7

	Analysis Hardness (mg/L): 87			Discharge Flow (N	MGD): 1.23	7 4161	ysis pH (SU): 7
	Parameter	M	aximum Concentration in	Most Stringent	Candidate for	Most Stringent	Screening
	rai ametei	Α	pplication or DMRs (µg/L)	Criterion (µg/L)	PENTOXSD Modeling?	WQBEL (µg/L)	Recommendation
	Total Dissolved Solids		450000	500000	No		
7	Chloride			250000			
Group	Bromide	'	100000	N/A	No		Monitor
Ū	Sulfate		234000	250000	No		
	Fluoride			2000			
	Total Aluminum		182	750	No		
	Total Antimony	<	10	56	Yes	818.17	No Limits/Monitoring
	Total Arsenic	<	10	10	Yes	1461.01	No Limits/Monitoring
	Total Barium		36.5	2400	No		
	Total Beryllium	<	0.5	N/A	No (Value < QL)		
	Total Boron		63.1	1600	No		
	Total Cadmium	<	1	0.244	Yes	19.49	No Limits/Monitoring
	Total Chromium			N/A			
	Hexavalent Chromium	<	2	10.4	No		
	Total Cobalt	<	9.1	19	No		
7	Total Copper		5	83	No No		
9	Total Cyanide	<	5	N/A	No (Value < QL)		
ê	Total Iron Dissolved Iron		1240	1500	No (Value < OL)		
	Dissolved Iron Total Lead	<	10 10	300 2.7	No (Value < QL) Yes	392.36	No Limits/Monitoring
	Total Manganese		709	1000	No No	392.30	NO LIMITS/MONITORING
	Total Mercury	<	0.1	0.05	No (Value < QL)		
	Total Molybdenum	<	10	N/A	No (Value < QL)		
	Total Nickel		23.2	46.4	No		
	Total Phenols (Phenolics)	<	10	5	Yes	7299.47	No Limits/Monitoring
	Total Selenium	<	10	50	Yes	728.92	No Limits/Monitoring
	Total Silver		2	30	No		
	Total Thallium	<	0.3	0.24	No (Value < QL)		
	Total Zinc		67.5	106.5	No		
	Acrolein	Y	2	3	No (Value < QL)		
	Acrylamide	<		0.07			
	Acrylonitrile	<	0.5	0.051	No (Value < QL)		
	Benzene	<	0.2	12	No (Value < QL)		
	Bromoform		0.2	43	No		
	Carbon Tetrachloride	<	0.2	0.23	No (Value < QL)		
	Chlorobenzene Chlorodibromomethane	<	0.2 0.4	130 0.4	No (Value < QL) Yes		
	Chloroethane	<	0.4	N/A	No (Value < QL)		
	2-Chloroethyl Vinyl Ether	<	0.5	3500	No (Value < QL)		
	Chloroform		0.3	5.7	No (Value < QL)		
	Dichlorobromomethane	<	0.2	0.55	No (Value < QL)		
	1,1-Dichloroethane	<	0.2	N/A	No (Value < QL)		
0	1,2-Dichloroethane	<	0.2	0.38	No (Value < QL)		
0	1,1-Dichloroethylene	<	0.2	33	No (Value < QL)		
Ū	1,2 Didilioropropario	<	0.2	2200	No (Value < QL)		
	1 3-Dichloropropylene	<	0.2	0.34	No (Value < QL)		
	Ethylbenzene	<	0.2	530	No (Value < QL)		
	Methyl Bromide	<	0.5	47	No (Value < QL)		
	Methyl Chloride		0.3	5500	No No Oleks (OL)		
	Methylene Chloride	<	0.2	4 6	No (Value < QL)		
	1,1,2,2-Tetrachloroethane	<	0.2 0.2	0.17 0.69	No (Value < QL) No (Value < QL)		
	Tetrachloroethylene Toluene	<	0.2	330	No (Value < QL)		
	1 2-trans-Dichloroethylene	<	0.5	140	No (Value < QL)		
	1,1,1-Trichloroethane	<	0.2	610	No (Value < QL)		
	1,1,2-Trichloroethane	<	0.5	0.59	No (Value < QL)		
	Trichloroethylene	<	0.2	2.5	No (Value < QL)		
	Vinyl Chloride	<	0.2	0.025	No (Value < QL)		
	2-Chlorophenol	<	4.7	81	No (Value < QL)		
	2,4-Dichlorophenol	<	4.7	77	No (Value < QL)		
	2,4-Dimethylphenol	<	4.7	130	No (Value < QL)		
	4,6-Dinitro-o-Cresol	<	4.7	13	No (Value < QL)		
3	2,4-Dinitrophenol	<	4.7	69	No (Value < QL)		

2-Nitrophenol	<	4.7	1600	No (Value < QL)		
4-Nitrophenol	<	4.7	470	No (Value < QL)		
p-Chloro-m-Cresol	<	4.7	30	No (Value < QL)		
Pentachlorophenol	<	4.7	0.27	No (Value < QL)		
Phenol	<	4.7	10400	No (Value < QL)		
2,4,6-Trichlorophenol	<	4.7	1.4	No (Value < QL)		
Acenaphthene	<	4.7	17	No		
Acenaphthylene	<	4.7	N/A	No	•	T
Anthracene	<	4.7	8300	No		
Benzidine	<	4.7	0.000086	No (Value < QL)		
Benzo(a)Anthracene	<	0.2	0 0038	No (Value < QL)		
Benzo(a)Pyrene	<	0.1	0 0038	No (Value < QL)		
3.4-Benzofluoranthene	<	0.2	0 0038	No (Value < QL)		
Benzo(ghi)Perylene	<	4.7	N/A	No		
Benzo(k)Fluoranthene	<	0.2	0 0038	No (Value < QL)		
Bis(2-Chloroethoxy)Methane	<	4.7	N/A	No (Value < QL)		
Bis(2-Chloroethyl)Ether	<	4.7	0.03	No (Value < QL)		
Bis(2-Chloroisopropyl)Ether	<	4.7	1400	No (Value < QL)		
Bis(2-Ethylhexyl)Phthalate	<	81	12	Yes	477.17	Monitor
4-Bromophenyl Phenyl Ether	<	4.7	54	No (Value < QL)		
Butyl Benzyl Phthalate	<	4.7	35	No (Value < QL)		
2-Chloronaphthalene	<	4.7	1000	No (Value < QL)		
4-Chlorophenyl Phenyl Ether	<	4.7	N/A	No (Value < QL)		
Chrysene	<	0.2	0 0038	No (Value < QL)		
Dibenzo(a,h)Anthrancene	<	0.2	0 0038	No (Value < QL)		
1,2-Dichlorobenzene	<	4.7	160	No		
1,3-Dichlorobenzene	<	4.7	69	No		
1,4-Dichlorobenzene	<	4.7	150	No		
3.3-Dichlorobenzidine	<	4.7	0.021	No (Value < QL)		
Diethyl Phthalate	<	4.7	800	No (Value < QL)		
Dimethyl Phthalate	<	4.7	500	No (Value < QL)		
Di-n-Butyl Phthalate	<	4.7	21	No (Value < QL)		
2,4-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
2 6-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
1.4-Dioxane	<	4.7	N/A	No		
Di-n-Octyl Phthalate	<	4.7	N/A	No (Value < QL)		
1,2-Diphenylhydrazine	<	4.7	0.036	No (Value < QL)		
Fluoranthene	<	4.7	40	No		
Fluorene	<	4.7	1100	No		
Hexachlorobenzene	<	4.7	0 00028	No (Value < QL)		
Hexachlorobutadiene	<	4.7	0.44	Yes	99.41	No Limits/Monitoring
Hexachlorocyclopentadiene	<	4.7	1	No (Value < QL)		
Hexachloroethane	<	4.7	1.4	No (Value < QL)		
Indeno(1,2,3-cd)Pyrene	<	0.2	0.0038	No (Value < QL)		
Isophorone	<	4.7	35	No (Value < QL)		
Naphthalene	<	4.7	43	No		
Nitrobenzene	<	4.7	17	No (Value < QL)		
n-Nitrosodimethylamine	<	4.7	0 00069	No (Value < QL)		
n-Nitrosodi-n-Propylamine	<	4.7	0.005	No (Value < QL)		
n-Nitrosodiphenylamine	<	4.7	3 3	No (Value < QL)		
Phenanthrene	<	4.7	1	Yes	49 7	No Limits/Monitoring
Pyrene	<	4.7	830	No	-	
1,2,4-Trichlorobenzene	<	4.7	26	No		

PENTOXSD

Modeling	Input I	Data

Strea		Elevation (ft)	-	inage krea q mi)	Slope	PWS (mg				pply FC				
421	122 15.7	5 734	.80 11	1500.00	0.00000		0.00		[✓				
							Stream Da	ata						
	LFY	Trib Flow	Stream Flow	WD Ratio	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributar</u> Hard	Σ pH	<u>Strean</u> Hard	n pH	Analysi: Hard	<u>§</u> pH
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)		mg/L)		(mg/L)		(mg/L)	
Q7-10	0.1	2761	0	0	870	7	0	0	87	7	0	0	0	
Qh		0	0	0	0	0	0	0	100	7	0	0	0	
						D	ischarge D)ata						
	Name	Perm Numb	er D	isc	ermitted Disc Flow		Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
					mgd)	(mgd)						(mg/L)		
	Cheswick	IMP 4	03 1	.23	0	0	0	0.01	0.1	0.1	0.1	165	7	
						Pa	arameter D	ata						
	Paramete	r Name		Disc Conc	Trib Conc	Disc Daily C\	Hourt		CV	Fate Coef		Crit Mod	Conc	
ALUMI	MUIM			(µg/L) 1E+10	(µg/L) 0	0.	5 0.5	(μg/L 0	0	0	0	1	(µg/L) 0	
ANTIM				1E+11	0	0.			0	0	0	1	0	
ARSE				1E+11	0	0.			0	0	0	1	0	
BARIU	M			1E+11	0	0.	5 0.5	0	0	0	0	1	0	
BIS(2-	ETHYLHEX	(L) PHTHAL	ATE	1E+08	0	0.	5 0.5	0	0	0	0	1	0	
BORO	N			1E+11	0	0.5	5 0.5	0	0	0	0	1	0	
CADM	IUM			1E+11	0	0.	5 0.5	0	0	0	0	1	0	
CHLO	ROFORM			1E+11	0	0.	5 0.5	0	0	0	0	1	0	
CHRO	MIUM, VI			1E+11	0	0.	5 0.5	0	0	0	0	1	0	
COBA	LT			1E+11	0	0.	5 0.5	0	0	0	0	1	0	
COPP	ER			1E+11	0	0.	5 0.5	0	0	0	0	1	0	
CYANI	DE, FREE			1E+11	0	0.			0	0	0	1	0	
	LVED IRON			100000	_	0.			0	0	0	1	0	
	CHLOROBU	TA-DIENE		1E+11	0	0.			0	0	0	1	0	
LEAD				1E+11	0	0.			0	0	0	1	0	
LITHIU				1E+11	0	0.			0	0	0	1	0	
	ANESE			1E+11	0	0.			0	0	0	1	0	
MERC				1E+11	0	0.			0	0	0	1	0	
NICKE	:L ROSODI-PH	ENIVI ANAINI	=	1E+11 1E+11	0	0.			0	0	0	1	0	
	ANTHRENE	LIVI LAWIIN		1E+11	0	0.			0	0	0	1	0	
	OLICS (PWS	2)		1E+07		0.	_		0	0	0	1	0	
SELEN	-	2)		1E+11	0	0.			0	0	0	1	0	
SILVE				1E+11	0	0.	_		0	0	0	1	0	
THALL				1E+11	0	0.			0	0	0	1	0	
	IRON			1E+11	0	0.5			0	0	0	1	0	

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ZINC				1F	+11	0	0.	5 0.5		0	0	0	0	1	0	
Stream Code	RMI	Elevati (ft)		Orainag Area	е	Slope	PWS (mg	With		_	Ap	ply :C				
42122	15.00	73	4.00	(sq mi) 11550.		0.00000		0.00				/				
								Stream D	eta							
	LFY	Trib Flow	Strea			Rch Width	Rch Depth	Rch Velocity	Rch Trav		<u>Tributar</u>	γ pH	Stream Hard	<u>p</u> H	Analysis Hard	<u>s</u> pH
	(cfsm)	(cfs)	(cfs	;)		(ft)	(ft)	(fps)	Time (days)	(n	mg/L)		(mg/L)		(mg/L)	
Q7-10	0.1	0		0	0	0	0	0	0	_	87	7	0	0	0	(
Qh		0		0	0	0	0	0	0		100	7	0	0	0	0
							D	ischarge [)ata							
N	ame	Perr Num		Existing Disc Flow		ermitted Disc Flow	Design Disc Flow	Reserve Factor			CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
				(mgd)	(mgd)	(mgd)							(mg/L)		
				0		0	0	0	0		0	0	0	100	7	
								arameter D								
F	Parameter N	lame		Dis Co (µg/	nc	Trib Conc (µg/L	Disc Daily C\	Hourl	Stea y Cor (µg	nc	Stream CV	Fate Coe		Crit Mod	Max Disc Conc (µg/L)	
ALUMINU	M)	0	0.	5 0.5			0	0	0	1	0	
ANTIMON	ľY)	0	0.		(0	0	0	0	1	0	
ARSENIC					0	0	0.				0	0	0	1	0	
BARIUM)	0	0.				0	0	0	1	0	
BIS(2-E11 BORON	TYLHEXYL) PHTHA	LATE		0	0	0.			ט	0	0	0	1	0	
CADMIUN					0	0	0.				0	0	0	1	0	
CHLOROF					0	0	0.				0	0	0	1	0	
CHROMIL)	0	0.				0	0	0	1	0	
COBALT	,)	0	0.				0	0	0	1	0	
COPPER					0	0	0.			0	0	0	0	1	0	
CYANIDE	, FREE			(0	0	0.5	5 0.5		0	0	0	0	1	0	
DISSOLVI	ED IRON			(0	0	0.	5 0.5		0	0	0	0	1	0	
HEXACHL	.OROBUTA	-DIENE		(0	0	0.			0	0	0	0	1	0	
LEAD					0	0	0.	5 0.5		0	0	0	0	1	0	
LITHIUM)	0	0.				0	0	0	1	0	
MANGAN)	0	0.			0	0	0	0	1	0	
MERCUR'	Υ				0	0	0.				0	0	0	1	0	
NICKEL	SODI-PHEN	IVI ANDR	JE.		0	0	0.				0	0	0	1	0	
PHENANT		T LAWIII	W.)	0	0.				0	0	0	1	0	
	CS (PWS)				0	0	0.				0	0	0	1	0	
SELENIU)	0	0.				0	0	0	1	0	
SILVER					0	0	0.				0	0	0	1	0	
THALLIUN	И			(0	0	0.			0	0	0	0	1	0	
TOTAL IR	ON			(0	0	0.	5 0.5		0	0	0	0	1	0	
ZINC					0	0	0.	5 0.5		_	0	0	0	1	0	

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PENTOXSD Analysis Results Hydrodynamics

<u>s</u>	WP Basii 18A	1		n Code: 122			ER				
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
	Q7-10 Hydrodynamics										
15.750	2761	0	2761	1.9028	0.0002	7	870	124.29	0.4537	0.1010	1000+
15.000	2766	0	2766	NA	0	0	0	0	0	0	NA
Qh Hydrodynamics											
15.750	7559.3	0	7559.3	1.9028	0.0002	10.901	870	79.807	0.7972	0.0575	1000+
15.000	7571.3	0	7571.3	NA	0	0	0	0	0	0	NA

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Wasteload Allocations

RMI	Name	Permit N	lumber						
15.75	Cheswick	IMP	403						
					AFC				
Q7-10:	CCT (mi	in) 15	PMF	0.009	Analysis	pН	7 Analysis I	Hardness	92.028
	Parameter		Conc	Stream CV	Conc	Fate Coef	WQC	WQ Obj	WLA
			(µg/L)		(µg/L)		(µg/L)	(µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	1100	1100	17061.13
	ARSENIC		0	0	0	0	340	340	5273.44
			Dissolved	WQC.	Chemical tra	anslator o	of 1 applied.		
	CADMIUM		0	0	0	0	1.857	1.96	30.407
			Dissolved	WQC.	Chemical tra	anslator o	of 0.947 applied.		
	LEAD		0	0	0	0	58.99	73.452	1139.256
			Dissolved	WQC.	Chemical tra	anslator o	of 0.803 applied.		
	SELENIUM		0	0	0	0	NA	NA	NA
BIS(2-ETH	YLHEXYL) PHT	HALATE	0	0	0	0	4500	4500	69795.53
HEXAC	HLOROBUTA-D	IENE	0	0	0	0	10	10	155.101
PH	ENANTHRENE		0	0	0	0	5	5	77.551
					CFC				
Q7-10:	CCT (min	1) 720	PMF	0.1	Analysis	pH 7	Analysis	Hardness	87.533
			Stream	Stream		Fate	WQC	WQ	WLA
	Parameter		Conc. (µg/L)	CV	Conc. (µg/L)	Coef	(µg/L)	Obj (µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	220	220	32142.26
	ARSENIC		0	0	0	0	150	150	21915.18
			Dissolved	WQC.	Chemical tra	anslator o	of 1 applied.		
	CADMIUM		0	0	0	0	0.224	0.245	35.824
			Dissolved	WQC.	Chemical tra	anslator o	of 0.915 applied.		
	LEAD		0	0	0	0	2.176	2.686	392.363
			Dissolved	WQC.	Chemical tra	anslator o	of 0.81 applied.		
	SELENIUM		0	0	0	0	4.6	4.989	728.921
			Dissolved	WQC.	Chemical tra	anslator o	of 0.922 applied.		
BIS(2-ETH)	YLHEXYL) PHTH	HALATE	0	0	0	0	910	910	132952.1
HEXAC	HLOROBUTA-DI	IENE	0	0	0	0	2	2	292.202
PH	ENANTHRENE		0	0	0	0	1	1	146.101
					тнн				
Q7-10:	CCT (min	1) 720	PMF	0.1	Analysi	s pH N	IA Analysis	Hardness	NA
Monday, Dece	mber 18, 2017								P:

NPDES Permit Fact Sheet Cheswick Generating Station NPDES Permit No. PA0001627

Internal Monitoring Point 503

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.4

Facility:	cility: Cheswick		NPDES Permit No.:	PA00016	27 Outfall:	503
Analysis Hardr	ness (mg/L):	87	Discharge Flow (MGD):	0.18	Analysis pH (SU):	7

_	0.18	•	alysis pH (SU): 7
Candidate		Most Stringent WQBEL (µg/L)	Screening Recommendation
Yes		4976000000	Monitor
165	,	2488000000	Monitor
No		2488000	Monitor
Yes		2400000	Monitor
163	,		MOUNTO
No			
No Yes		5558.14	No Limita/Monitorina
		9925.25	No Limits/Monitoring
Yes		9925.25	No Limits/Monitoring
No.			
No (Value <	_	C400C0 0	Establish Limita
Yes		519968 9	Establish Limits
Yes	;	119.94	No Limits/Monitorin
No			
No			
Yes		794.79	No Limits/Monitoring
No			
No (Value <			
		2647.85	No Limita/Manitaria
Yes Yes		2647.85 992524 8	No Limits/Monitoring No Limits/Monitoring
No Yes		992524 8	No Limits/Monitoring
No			
No No			
Yes			_
Yes		4951.86	No Limits/Monitoring
No		4931.00	NO LIMITS/MONITORING
No (Value <			_
No			
No (Value <			
No (value v	(VL)		
No (Value <	< 01.)		
No (Value <			
No (Value <			
No			
No (Value <			
Yes		15479.35	No Limits/Monitoring
No (Value <			
No (Value <	< QL)		
No (Value <			
No (Value <	< QL)		
No (Value <			
No (Value <	< QL)		
No (Value <			
No (Value <			
No			
No			
No (Value <			
No (Value <	< QL)		
No (Value <	< QL)		
No (Value <			
No (\	/alue	Value < QL) (Value < QL)	√alue < QL)

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NPDES Permit Fact Sheet Cheswick Generating Station NPDES Permit No. PA0001627

l	p-Chloro-m-Cresol	<	4.7	30	No (Value < QL)	
	Pentachlorophenol	<	4.7	0.27	No (Value < QL)	
	Phenol	٧	4.7	10400	No (Value < QL)	
	2 4 6-Trichlorophenol	<	4.7	1.4	No (Value < QL)	
	Acenaphthene	<	4.7	17	No	

Acenaphthylene	<	4.7	N/A	No		
Anthracene	<	4.7	8300	No		
Benzidine	<	4.7	0 000086	No (Value < QL)		
Benzo(a)Anthracene	<	0.2	0.0038	No (Value < QL)		
Benzo(a)Pyrene	<	0.1	0.0038	No (Value < QL)		
3,4-Benzofluoranthene	<	0.2	0.0038	No (Value < QL)		
Benzo(ghi)Perylene	<	4.7	N/A	No		
Benzo(k)Fluoranthene	<	0.2	0.0038	No (Value < QL)		
Bis(2-Chloroethoxy)Methane	<	4.7	N/A	No (Value < QL)		
Bis(2-Chloroethyl)Ether	<	4.7	0.03	No (Value < QL)		
Bis(2-Chloroisopropyl)Ether	<	4.7	1400	No (Value < QL)		
Bis(2-Ethylhexyl)Phthalate	<	1.9	12	No (Value < QL)		
4-Bromophenyl Phenyl Ether	<	4.7	54	No (Value < QL)		
Butyl Benzyl Phthalate	<	4.7	35	No (Value < QL)		
2-Chloronaphthalene	< 4.7		1000	No (Value < QL)		
4-Chlorophenyl Phenyl Ether	<	4.7	N/A	No (Value < QL)		
Chrysene	<	0.2	0.0038	No (Value < QL)		
Dibenzo(a,h)Anthrancene	<	0.2	0.0038	No (Value < QL)		
1,2-Dichlorobenzene	<	4.7	160	No		
1,3-Dichlorobenzene	<	4.7	69	No		
1,4-Dichlorobenzene	<	4.7	150	No		
3,3-Dichlorobenzidine	<	4.7	0.021	No (Value < QL)		
Diethyl Phthalate	<	4.7	800	No (Value < QL)		
Dimethyl Phthalate	<	4.7	500	No (Value < QL)		
Di-n-Butyl Phthalate	<	4.7	21	No (Value < QL)		
2,4-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
2,6-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
1,4-Dioxane	<	4.7	N/A	No		
Di-n-Octyl Phthalate	<	4.7	N/A	No (Value < QL)		
1,2-Diphenylhydrazine	<	4.7	0.036	No (Value < QL)		
Fluoranthene	<	4.7	40	No		
Fluorene	<	4.7	1100	No		
Hexachlorobenzene	<	4.7	0 00028	No (Value < QL)		
Hexachlorobutadiene	<	4.7	0.44	Yes	641.94	No Limits/Monitoring
Hexachlorocyclopentadiene	<	4.7	1	No (Value < QL)		
Hexachloroethane	<	4.7	1.4	No (Value < QL)		
Indeno(1 2 3-cd)Pyrene	<	0.2	0.0038	No (Value < QL)		
Isophorone	<	4.7	35	No (Value < QL)		
Naphthalene	<	4.7	43	No		
Nitrobenzene	<	4.7	17	No (Value < QL)		
n-Nitrosodimethylamine	<	4.7	0 00069	No (Value < QL)		
n-Nitrosodi-n-Propylamine	<	4.7	0.005	No (Value < QL)		
n-Nitrosodiphenylamine	<	4.7	33	No (Value < QL)		
Phenanthrene	<	4.7	1	Yes	320.97	No Limits/Monitoring
Pyrene	<	4.7	830	No		
1,2,4-Trichlorobenzene	<	4.7	26	No		

PENTOXSD

Modeling	Input	Data
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Stream Code		Elevation (ft)		ainage Area sq mi)	,	Slope	PWS Wi (mgd)				pply FC				
4212	22 15.75	734		•	00 (0.00000	0	.00			✓				
							St	ream D	ata						
	LFY	Trib Flow	Stream Flow	n WI Rat		Rch Width		Rch elocity	Rch Trav Time	<u>Tributa</u> Hard	DΗ pH	<u>Stream</u> Hard	n pH	<u>Analysis</u> Hard	§ pH
	(cfsm)	(cfs)	(cfs)			(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
7-10	0.1	2761	(D	0	870	7	0	0	87	7	0	0	0	0
)h		0	(D	0	0	0	0	0	100	7	0	0	0	0
							Disc	charge (Data						
	Name	Perm Numb	er [disting Disc Flow		mitted Disc Iow		Reserve Factor		CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
			(1	mgd)	(n	ngd)	(mgd)						(mg/L)		
C	heswick	IMP 5	03 (0.18		0	0	0	0.01	0.1	0.1	0.1	165	7	
							Para	meter D)ata						
	Parameter N	lame		Disc	nc	Trib Conc	Disc Daily CV	Disc Hourl CV	y Con	CV	Fate Coef	FOS	Crit Mod	Conc	
LUMIN	II IM			(µg/l 1E+	-	(µg/L) 0	0.5	0.5	(µg/) 0	L) 0	0	0	1	(µg/L) 0	
NTIMO				1E+		0	0.5	0.5	_	0	0	0	1	0	
RSEN				1E+		0	0.5	0.5	_	0	0	0	1	0	
ARIUN				1E+		0	0.5	0.5	_	0	0	0	1	0	
	THYLHEXYL) PHTHAL	ATE	1E+		0	0.5	0.5		0	0	0	1	0	
BORON	1			1E+	-11	0	0.5	0.5	5 0	0	0	0	1	0	
ADMI	JM			1E+	-11	0	0.5	0.5	5 0	0	0	0	1	0	
HLOR	OFORM			1E+	11	0	0.5	0.5		0	0	0	1	0	
	IIUM, VI			1E+		0	0.5	0.5		0	0	0	1	0	
OBAL				1E+		0	0.5	0.5		0	0	0	1	0	
OPPE				1E+		0	0.5	0.5		0	0	0	1	0	
	E, FREE			1E+		0	0.5 0.5	0.5		0	0	0	1	0	
	.VED IRON HLOROBUTA	DIENE		1E+		0	0.5	0.5	_	0	0	0	1	0	
EAD	ILONODOTA	-DILINE		1E+		0	0.5	0.5	_	0	0	0	1	0	
.E.T.UI	И			1E+		0	0.5	0.5		0	0	0	1	0	
AANGA				1E+		0	0.5	0.5	_	0	0	0	1	0	
/ERCU	IRY			1E+	-11	0	0.5	0.5	5 0	0	0	0	1	0	
IICKEL				1E+	-11	0	0.5	0.5	0	0	0	0	1	0	
I-NITR	OSODI-PHEN	YLAMIN	E	1E+	11	0	0.5	0.5	0	0	0	0	1	0	
PHENA	NTHRENE			1E+	11	0	0.5	0.5	5 0	0	0	0	1	0	
PHENO	LICS (PWS)			1E+	-07	0	0.5	0.5	5 0	0	0	0	1	0	
SELENI	UM			1E+	11	0	0.5	0.5	5 0	0	0	0	1	0	
SILVER				1E+	11	0	0.5	0.5		0	0	0	1	0	
THALLI				1E+	-11	0	0.5	0.5		0	0	0	1	0	
TOTAL	IRON			1E+	11	0	0.5	0.5	5 0	0	0	0	1	0	

ZINC				1E-	⊦ 11	0	0.5	5 0.5	. 0		0	0	0	1	0	
Stream Code	RMI	Elevati (ft)		Drainage Area (sq mi)	•	Slope	PWS V	Vith			Ap	oply FC				_
42122	15.00	73	4.00			0.00000		0.00			[✓				
								Stream D	ata							
	LFY	Trib Flow	Strea Flo		_	Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tri</u> Hard	butar	У pH	Strean Hard	n pH	<u>Analysi</u> Hard	<u>is</u> pH
	(cfsm)	(cfs)	(cfs	s)		(ft)	(ft)	(fps)	(days)	(mg/L)			(mg/L)		(mg/L)	
Q7-10	0.1	0		0	0	0	0	0	0	87	7	7	0	0	0	
Qh		0		0	0	0	0	0	0	100)	7	0	0	0	
							Di	scharge [Data							
N	ame	Pem Numi		Existing Disc Flow	[mitted Disc Tow	Design Disc Flow	Reserve Factor	AFC PMF	CF(THH PMF	CRL PMF	Disc Hard	Disc pH	
				(mgd)	(n	ngd)	(mgd)							(mg/L)		
				0		0	0	0	0	0		0	0	100	7	
								rameter D								
F	arameter N	lame		Dis Cor (µg/	nc	Trib Conc (µg/L)	Disc Daily CV	Hourl	y Con	ic .	eam CV	Fate Coef		Crit Mod	Max Disc Conc (µg/L)	
ALUMINU	M			(-)		0	0.5	5 0.5			0	0	0	1	0	
ANTIMON				(0	0.9				0	0	0	1	0	
ARSENIC				(0	0.5				0	0	0	1	0	
BARIUM BIS(2-FTH	YLHEXYL) ΡΗΤΗΔ	ΙΔΤΕ	(0	0.9				0	0	0	1	0	
BORON	THE TEXT E	,				0	0.5				0	0	0	1	0	
CADMIUN	1			()	0	0.5	0.5	. 0		0	0	0	1	0	
CHLOROF	FORM			()	0	0.5	0.5	0		0	0	0	1	0	
CHROMIU	JM, VI			(0	0.5				0	0	0	1	0	
COBALT				(0	0.5				0	0	0	1	0	
COPPER	EDE-			(0	0.9				0	0	0	1	0	
CYANIDE, DISSOLVE				(0	0.5				0	0	0	1	0	
	OROBUTA	-DIENE		,		0	0.5				0	0	0	1	0	
LEAD				(0	0.5				0	0	0	1	0	
LITHIUM				(0	0.5				0	0	0	1	0	
MANGAN				(0	0.5				0	0	0	1	0	
MERCUR'	Υ			(0	0.5				0	0	0	1	0	
NICKEL	ODI DUCI	IVI ANDR	ıE	(0	0.5				0	0	0	1	0	
PHENANT	ODI-PHEN	I LAMIN	40	(0	0.9				0	0	0	1	0	
	CS (PWS)			(0	0.5				0	0	0	1	0	
SELENIUN				(0	0.5				0	0	0	1	0	
SILVER				(0	0.5				0	0	0	1	0	
THALLIUN	И			()	0	0.5	5 0.5	. 0		0	0	0	1	0	
TOTAL IR	ON			()	0	0.5	5 0.5	0		0	0	0	1	0	
ZINC				(١.	0	0.5	0.5	. 0		0	0	0	1	0	

Monday, December 18, 2017

PENTOXSD Analysis Results Hydrodynamics

<u>s</u>	WP Basir 18A	1		n Code:			<u>Stream</u> ALLEGH	m Name	-		
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	√elocity (fps)	Reach Trav Time (days)	CMT (min)
					Q7-	10 Hy	drodyna	mics			
15.750	2761	0	2761	0.27846	0.0002	7	870	124.29	0.4534	0.1011	1000+
15.000	2766	0	2766	NA	0	0	0	0	0	0	NA
					Q	h Hydr	odynan	nics			
15.750	7559.3	0	7559.3	0.27846	0.0002	10.903	870	79.794	0.7969	0.0575	1000+
15.000	7571.3	0	7571.3	NA	0	0	0	0	0	0	NA

Monday, December 18, 2017

Wasteload Allocations

RMI	Name	Permit Num	ber						
15.75	Cheswick	IMP 503							
					AFC				
Q7-10	: CCT (min) 15	PMF	0.009	Analysis	s pH	7 Analysis H	lardness	87.778
	Parameter		tream Conc µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
	ANTIMONY		0	0	0	0	1100	1100	110167.7
	ARSENIC	Dis	0 solved	0 WQC. (0 Chemical tr	0 anslator (340 of 1 applied.	340	34051.84
	CADMIUM		0	0	0	0	1.774	1.868	187.129
		Dis	solved	WQC.	Chemical tr	anslator (of 0.949 applied.		
	COPPER		0	0	0	0	11.886	12.381	1240.003
		Dis	solved	WQC.	Chemical tr	anslator (of 0.96 applied.		
	LEAD		0	0	0	0	56.021	69.162	6926.707
		Dis					of 0.81 applied.		
	SELENIUM		0	0	0	0	NA	NA	NA
(CHLOROFORM		0	0	0	0	1900	1900	190289.7
HEXAC	CHLOROBUTA-DI	ENE	0	0	0	0	10	10	1001.525
Pi	HENANTHRENE		0	0	0	0	5	5	500.762
	MANGANESE		0	0	0	0	NA	NA	NA.
	BORON		0	0	0	0	8100	8100	811235
					CFC				
Q7-10:	CCT (min)	720	PMF	0.1	Analysi	spH 7	7 Analysis	Hardness	87.078
			ream	Stream		Fate	wac	WQ	WLA
	Parameter	_	onc. ug/L)	CV	Conc. (µg/L)	Coef	(µg/L)	Obj (µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	220	220	218355.4
	ARSENIC		0	0	0	0	150	150	148878.7
		Dis					of 1 applied.		
	CADMIUM		0	0	. 0	0	0.223	0.244	242.43
	00000	Dis					of 0.915 applied.		
	COPPER	-	0	0	0	0	7.957	8.289	8226.715
	1545	Dis					of 0.96 applied.	2.000	2047.012
	LEAD	-	0	0	. 0	. 0	2.164	2.668	2647.848
	CEL ENILINA	Dis					of 0.811 applied.	4.000	4054.050
	SELENIUM	Dis	0 solved	0 WQC. (0 Chemical tr	0 anslator (4.6 of 0.922 applied.	4.989	4951.858

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Wasteload Allocations

				waster	Jau Allo	cations			
RMI	Name	Permit No	umber						
15.75	Cheswick	IMP 5	03						
	CHLOROFORM		0	0	0	0	390	390	387084.7
HEX	KACHLOROBUTA-DIE	NE	0	0	0	0	2	2	1985.049
	PHENANTHRENE		0	0	0	0	1	1	992.525
	MANGANESE		0	0	0	0	NA	NA	NA
	BORON		0	0	0	0	1600	1600	1580000
				Т	нн				
Q7-10:	CCT (min)	720	PMF	0.1	Analysis	spH NA	Analysi	s Hardness	NA
	Parameter		Stream Conc	Stream CV	Trib Conc	Fate Coef	WQC	WQ Obj	WLA
			(µg/L)		(µg/L)		(µg/L)	(µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	5.6	5.6	5558.139
	ARSENIC		0	0	0	0	10	10	9925.247
	CADMIUM		0	0	0	0	NA	NA	NA
	COPPER		0	0	0	0	NA	NA	NA.
	LEAD		0	0	0	0	NA	NA	NA.
	SELENIUM		0	0	0	0	NA	NA	NA
	CHLOROFORM		0	0	0	0	NA	NA	NA
HE	XACHLOROBUTA-DIE	ENE	0	0	0	0	NA	NA	NA
	PHENANTHRENE		0	0	0	0	NA	NA	NA
	MANGANESE		0	0	0	0	1000	1000	992524.8
	BORON		0	0	0	0	3100	3100	3070000
				c	CRL				
Qh:	CCT (min)	720) PMF	0.1					
	Parameter		Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
	ANTIMONY		0	0	0	0	NA.	NA	NA
	CHIMON				U	-		140	110

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Wasteload Allocations

RMI	Name	Permit Num	ber						
15.75	Cheswick	IMP 503							
	ARSENIC		0	0	0	0	NA	NA	
	CADMIUM		0	0	0	0	NA	NA	
	COPPER		0	0	0	0	NA	NA	
	LEAD		0	0	0	0	NA	NΑ	
	SELENIUM		0	0	0	0	NA	NA	
	CHLOROFORM	1	0	0	0	0	5.7	5.7	
HEXA	ACHLOROBUTA-	-DIENE	0	0	0	0	0.44	0.44	
	PHENANTHREN	ΙE	0	0	0	0	NA	NA	
	MANGANESE		0	0	0	0	NA	NA	
	BORON		0	0	0	0	NA	NA	

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Recommended Effluent Limitations

SWP Basin	Stream Code:		Stream Name:
18A	42122		ALLEGHENY RIVER
RMI	Name	Permit Number	Disc Flow (mgd)
15.75	Cheswick	IMP 503	0.1800

	Effluent Limit		Max. Daily	Most S	tringent
Parameter	(µg/L)	Governing Criterion	Limit (µg/L)	WQBEL (µg/L)	WQBEL Criterion
ANTIMONY	5558.139	THH	8671.59	5558.139	THH
ARSENIC	9925.247	THH	15484.98	9925.247	THH
BORON	519968.9	AFC	811235.1	519968.9	AFC
CADMIUM	119.942	AFC	187.129	119.942	AFC
CHLOROFORM	15479.35	CRL	24150.28	15479.35	CRL
COPPER	794.792	AFC	1240.003	794.792	AFC
HEXACHLOROBUTA-DIENE	641.937	AFC	1001.525	641.937	AFC
LEAD	2647.848	CFC	4131.068	2647.848	CFC
MANGANESE	992524.8	THH	1540000	992524.8	THH
PHENANTHRENE	320.968	AFC	500.762	320.968	AFC
SELENIUM	4951.858	CFC	7725.695	4951.858	CFC

Monday, December 18, 2017

NPDES Permit Fact Sheet Cheswick Generating Station NPDES Permit No. PA0001627

Internal Monitoring Point 603

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.4

Facility:	Cheswick		NPDES Permit No.:	PA0001627	Outfall:	603
Analysis Hard	dness (mg/L):	87	Discharge Flow (MGD):	3.22	Analysis pH (SU):	7

	Parameter		Maximum Concentration in	Most Stringent	Candidate for	Most Stringent	Screening
_			Application or DMRs (µg/L)	Criterion (µg/L)	PENTOXSD Modeling?	WQBEL (µg/L)	Recommendation
_	Total Dissolved Solids	-		500000			
9	Chloride	-	400	250000			
2	Bromide	-	100	N/A	No No		
۳		-	106000	250000	No		
-	Fluoride Total Aluminum	+	330	2000 750	No		
	Total Antimony		10	5 6	Yes	315.99	No Limits/Monitoring
	Total Arsenic		10	10	Yes	564.27	No Limits/Monitoring
	Total Barium	_	72.1	2400	No	304.21	NO LIMITS/MOTITORING
	Total Bartilli Total Beryllium	+	0.5	N/A	No		
	Total Boron	+	469	1600	No		
	Total Cadmium	<	1	0.244	Yes	8 85	Monitor
	Total Chromium		·	N/A	100	0.00	morino
	Hexavalent Chromium	<	2	10.4	No		
	Total Cobalt		3	19	No		
N		<	5	83	No		
	Total Cyanide	<	5	N/A	No (Value < QL)		
9	Total Iron		71 8	1500	No		
	Dissolved Iron		315	300	Yes	16928.06	No Limits/Monitoring
	Total Lead	<	10	2.7	Yes	153.41	No Limits/Monitoring
	Total Manganese		1670	1000	Yes	24598	No Limits/Monitoring
	Total Mercury Total Molybdenum	<	0.1 13	0.05 N/A	No (Value < QL)		
	Total Nickel	+	8	46.4	No No		
	Total Phenols (Phenolics)	<		5	Yes		
	Total Selenium	<	10	50	Yes	281.52	No Limits/Monitoring
	Total Silver	<		30	No	201.02	TTO Elimitarino into inig
	Total Thallium	<	0.2	0.24	No (Value < QL)		
	Total Zinc		35.4	106.5	No		
	Acrolein	<	2	3	No (Value < QL)		
	Acrylamide	<		0.07			
	Acrylonitrile	<		0.051	No (Value < QL)		
	Benzene	<		12	No (Value < QL)		
	Bromoform	<	9.12	43	No (Value < QL)		
	Carbon Tetrachloride Chlorobenzene	<		0.23 130	No (Value < QL)		
	Chlorodibromomethane	<	0.4	0.4	No (Value < QL) No (Value < QL)		
	Chloroethane	<		N/A	No (Value < QL)		
	2-Chloroethyl Vinyl Ether	<	0.5	3500	No (Value < QL)		
	Chloroform	<		5.7	No (Value < QL)		
	Dichlorobromomethane	<	0.2	0.55	No (Value < QL)		
	1,1-Dichloroethane	<	0.2	N/A	No (Value < QL)		
	1,2-Dichloroethane	<	0.2	0.38	No (Value < QL)		
Ö	1,1-Dichloroethylene	<		33	No (Value < QL)		
9	1,2-Dichloropropane	<	0.2	2200	No (Value < QL)		
	1,3-Dichloropropylene	<	912	0.34	No (Value < QL)		
	Ethylbenzene Mathal Respire	<	0.2	530	No (Value < QL)		
	Methyl Bromide Methyl Chloride	<		47 5500	No (Value < QL) No (Value < QL)		
	Methylene Chloride	<		4 6	No (Value < QL)		
	1,1,2,2-Tetrachloroethane	<		0.17	No (Value < QL)		
	Tetrachloroethylene	<		0.69	No (Value < QL)		
	Toluene	<		330	No (Value < QL)		
	1,2-trans-Dichloroethylene	<		140	No (Value < QL)		
	1,1,1-Trichloroethane	<	912	610	No (Value < QL)		
	1 1 2-Trichloroethane	<		0.59	No (Value < QL)		
	Trichloroethylene	<		2.5	No (Value < QL)		
	Vinyl Chloride	<		0.025	No (Value < QL)		
	2-Chlorophenol	<	***	81	No (Value < QL)		
	2 4-Dichlorophenol	<		77 120	No (Value < QL)		
	2,4-Dimethylphenol 4,6-Dinitro-o-Cresol	<	***	130 13	No (Value < QL) No (Value < QL)		
1	2,4-Dinitro-o-cresor	<		69	No (Value < QL)		
_	2-Nitrophenol	<		1600	No (Value < QL)		
0.5		<		470	No (Value < QL)		
5	p-Chloro-m-Cresol	<		30	No (Value < QL)		

Pentachlorophenol	<	4.7	0.27	No (Value < QL)		
Phenol	<	4.7	10400	No (Value < QL)		
2,4,6-Trichlorophenol	<	4.7	1.4	No (Value < QL)		
Acenaphthene	<	4.7	17	No		
Acenaphthylene	<	4.7	N/A	No		
Anthracene	<	4.7	8300	No		
Benzidine	<	4.7	0.000086	No (Value < QL)		
Benzo(a)Anthracene	<	0.2	0.0038	No (Value < QL)		
Benzo(a)Pyrene	<	0.1	0.0038	No (Value < QL)		
3,4-Benzofluoranthene	<	0.2	0.0038	No (Value < QL)		
Benzo(ghi)Perylene	<	4.7	N/A	No		
Benzo(k)Fluoranthene	<	0.2	0.0038	No (Value < QL)		
Bis(2-Chloroethoxy)Methane	<	4.7	N/A	No (Value < QL)		
Bis(2-Chloroethyl)Ether	<	4.7	0.03	No (Value < QL)		
Bis(2-Chloroisopropyl)Ether	<	4.7	1400	No (Value < QL)		
Bis(2-Ethylhexyl)Phthalate	<	1.9	12	No (Value < QL)		
4-Bromophenyl Phenyl Ether	<	4.7	54	No (Value < QL)		
Butyl Benzyl Phthalate	<	4.7	35	No (Value < QL)		
2-Chloronaphthalene	<	4.7	1000	No (Value < QL)		
4-Chlorophenyl Phenyl Ether	<	4.7	N/A	No (Value < QL)		
Chrysene	<	0.2	0.0038	No (Value < QL)		
Dibenzo(a,h)Anthrancene	<	0.2	0.0038	No (Value < QL)		
1,2-Dichlorobenzene	<	4.7	160	No		
1.3-Dichlorobenzene	<	4.7	69	No		
1.4-Dichlorobenzene	<	4.7	150	No		
3,3-Dichlorobenzidine	<	4.7	0.021	No (Value < QL)		
Diethyl Phthalate	<	4.7	800	No (Value < QL)		
Dimethyl Phthalate	<	4.7	500	No (Value < QL)		
Di-n-Butyl Phthalate	<	4.7	21	No (Value < QL)		
2,4-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
2,6-Dinitrotoluene	<	4.7	0.05	No (Value < QL)		
1.4-Dioxane	<	4.7	N/A	No		
Di-n-Octyl Phthalate	<	4.7	N/A	No (Value < QL)		
1,2-Diphenylhydrazine	<	4.7	0.036	No (Value < QL)		
Fluoranthene	<	4.7	40	No		
Fluorene	<	4.7	1100	No		
Hexachlorobenzene	<	4.7	0 00028	No (Value < QL)		
Hexachlorobutadiene	<	4.7	0.44	Yes	41 94	No Limits/Monitorin
Hexachlorocyclopentadiene	<	4.7	1	No (Value < QL)		
Hexachloroethane	<	4.7	1.4	No (Value < QL)		
Indeno(1 2 3-cd)Pyrene	<	0.2	0.0038	No (Value < QL)		
sophorone	<	1.9	35	No (Value < QL)		
Naphthalene	<	4.7	43	No		
Nitrobenzene	<	4.7	17	No (Value < QL)		
n-Nitrosodimethylamine	<	4.7	0 00069	No (Value < QL)		
n-Nitrosodi-n-Propylamine	<	4.7	0.005	No (Value < QL)		
n-Nitrosodiphenylamine	<	4.7	3 3	No (Value < QL)		
Phenanthrene	<	4.7	1	Yes		
Pyrene	<	4.7	830	No		
1,2,4-Trichlorobenzene	<	4.7	26	No		T

PENTOXSD

Mode	ling	Input	Data

								MO	deling in	put Data	1					
Strea		RMI	Elevation (ft)	on I	Drainaç Area (sq mi		Slope	PWS (m			A	pply FC				
421	122	15.75	734	.80	-		0.00000		0.00			✓				
									Stream D	ata						
		LFY	Trib Flow	Strea		VD atio	Rch Width	Rch Depth	Rch Velocity	Rch Trav	<u>Tributa</u> Hard	MY pH	Stream Hard	n pH	Analysis Hard	} pH
		(cfsm)	(cfs)	(cfs	3)		(ft)	(ft)	(fps)	Time (days)	(mg/L)		(mg/L)		(mg/L)	
7-10		0.1	2761		0	0	870	7	0	0	87	7	0	0	0	
)h			0		0	0	0	0	0	0	100	7	0	0	0	
.									ischarge [) ata						
	Na	me	Perm	iit	Existing	ı Pe	ermitted	Design	Reserve		CFC	THH	CRL	Disc	Disc	
	740		Numb		Disc Flow		Disc Flow	Disc Flow	Factor	PMF	PMF	PMF	PMF	Hard	pH	
					(mgd)	((mgd)	(mgd)						(mg/L)		
	Ches	swick	IMP 6	03	3.22		0	0	0	0.01	0.1	0.1	0.1	165	7	
								P	arameter D)ata						
	Pa	arameter N	lame		C	sc	Trib Conc	C\	/ Hourl	y Con	c CV	n Fate Coe		Crit Mod	Conc	
)/L)	(µg/L			(µg/l					(µg/L)	
ALUM						+10		0.	_		0	0	0	1	0	
ANTIN ARSEI						+11		0.			0	0	0	1	0	
BARIL						+11 +11		0.		_	0	0	0	1	0	
		YLHEXYL	DUTUA	ATE		+08	_	0.	_	_	0	0	0	1	0	
BORO		ILIILAIL) FIIIIA	LAIL		+11	_	0.	_	_	0	0	0	1	0	
CADM						+11	_	0.	_	_	0	0	0	1	0	
CHLO		ORM				+11	_	0.	_	_	0	0	0	1	0	
CHRO						+11	_	0.		_	0	0	0	1	0	
OBA		.,				+11		0.		_	0	0	0	1	0	
OPP					1E	+11		0.	5 0.5	. 0	0	0	0	1	0	
		FREE				+11		0.	5 0.5	. 0	0	0	0	1	0	
		D IRON			100	0000	0 0	0.	5 0.5	. 0	0	0	0	1	0	
		DROBUTA	-DIENE		1E	+11	0	0.	5 0.5	. 0	0	0	0	1	0	
EAD					1E	+11	0	0.	5 0.5	0	0	0	0	1	0	
LITHIL	JM				1E	+11	0	0.	5 0.5	. 0	0	0	0	1	0	
MANG	ANE	SE			1E	+11	0	0.	5 0.5	0	0	0	0	1	0	
MERC	URY				1E	+11	0	0.	5 0.5	0	0	0	0	1	0	
NICKE	L				1E	+11	0	0.	5 0.5	0	0	0	0	1	0	
N-NITI	ROS	ODI-PHEN	IYLAMIN	E	1E	+11	0	0.	5 0.5	0	0	0	0	1	0	
PHEN	ANTI	HRENE			1E	+11	0	0.	5 0.5	0	0	0	0	1	0	
PHEN	OLIC	S (PWS)			1E	+07	0	0.	5 0.5	0	0	0	0	1	0	
SELE	MUIN				1E	+11	0	0.	5 0.5	0	0	0	0	1	0	
SILVE					1E	+11	_	0.	_	_	0	0	0	1	0	
THALL	JUM				1E	+11		0.			0	0	0	1	0	
TOTAL	LIRC	N			1E	+11	0	0.	5 0.5	0	0	0	0	1	0	

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ZINC				1E+	11 0	0.		5 ()	0	0	0	1	0	
Stream Code	RMI	Elevati (ft)	on [)rainage Area (sq mi)	Slope	PWS (mg					EC FDIy				
42122	15.00	73	4.00		0.00000)	0.00			5					
							Stream I	ata							
	LFY	Trib Flow	Strea Flov			Rch Depth	Rch Velocity	Rch Trav Time	<u>Tri</u> Hard	butar	for the second	Stream Hard		<u>Analys</u> Hard	sis
	(cfsm)	(cfs)	(cfs)	(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)	(mg/L)	
Q7-10	0.1	0		0	0 0	0	0	0	8	7	7	0	0	0	
Qh		0		0	0 0	0	0	0	100	0	7	0	0	0	
						D	ischarge	Data							
Na	ame	Pem Numi		Existing Disc Flow	Permitted Disc Flow	Design Disc Flow	Reserve Factor		CF(THH PMF	CRL PMF	Disc Hard	Disc pH	
				(mgd)	(mgd)	(mgd)							(mg/L)	_	
				0	0	0	0	0	0)	0	0	100	7	
P	arameter I	Vame		Disc		Disc Daily	Hou	c Stea		eam CV	Fate Coef	FOS	Crit Mod	Max Disc	
				(µg/L) (µg/L	.) C\	/ C\	/ (µg	/L)					Conc (µg/L)	
ALUMINUN	И			0	0	0.	5 0.	5 ()	0	0	0	1	0	
NOMITMA	Y			0	0	0.	_			0	0	0	1	0	
ARSENIC				0	0	0.	_	_		0	0	0	1	0	
BARIUM BIS(2-ETH	VI HEXVI) DHTHA	LATE	0	0	0.	_			0	0	0	1	0	
BORON		,,,,,,,,,,		0	0	0.				0	0	0	1	0	
CADMIUM				0	0	0.	5 0.	5 ()	0	0	0	1	0	
CHLOROF	ORM			0	0	0.	5 0.	5 ()	0	0	0	1	0	
CHROMIU	M, VI			0	0	0.	5 0.	5 ()	0	0	0	1	0	
COBALT				0	0	0.	_			0	0	0	1	0	
COPPER				0	0	0.	_			0	0	0	1	0	
CYANIDE,				0	0	0.	_			0	0	0	1	0	
DISSOLVE		DIENE		0	0	0.	_			0	0	0	1	0	
LEAD	OROBOTA	4-DILINE		0	0	0.		_		0	0	0	1	0	
LITHIUM				0	0	0.				0	0	0	1	0	
MANGANE	SE			0	0	0.				0	0	0	1	0	
MERCURY	,			0	0	0.)	0	0	0	1	0	
NICKEL				0	0	0.	5 0.	5 ()	0	0	0	1	0	
N-NITROS		NYLAMIN	ΙE	0	0	0.)	0	0	0	1	0	
PHENANT				0	0	0.				0	0	0	1	0	
PHENOLIC				0	0	0.				0	0	0	1	0	
SELENIUN	И			0	0	0.				0	0	0	1	0	
SILVER				0	0	0.				0	0	0	1	0	
THALLIUM				0	0	0.				0	0	0	1	0	
TOTAL IRO					0	0.	5 0.	5 (١.	0	0	0	1	0	

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PENTOXSD Analysis Results Hydrodynamics

<u>S1</u>	WP Basir 18A	1		n Code: 122			<u>Stream</u> ALLEGH	n Name ENY RIV	-		
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
					Q7-	10 Hy	drodyna	mics			
15.750	2761	0	2761	4.98133	0.0002	7	870	124.29	0.4542	0.1009	1000+
15.000	2766	0	2766	NA	0	0	0	0	0	0	NA
					Q	h Hydi	odynan	nics			
15.750	7559.3	0	7559.3	4.98133	0.0002	10.898	870	79.832	0.7978	0.0574	1000+
15.000	7571.3	0	7571.3	NA	0	0	0	0	0	0	NA

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Wasteload Allocations

RMI	Name	Permit N	umber							
15.75	Cheswick	IMP 6	603							
					AFC					
Q7-10	: CCT (min	n) 15	PMF	0.009	Analysis	рΗ	7	Analysis	Hardness	98.921
	Parameter		Stream Conc	Stream CV	n Trib Conc	Fate Coef		WQC	WQ Obj	WLA
			(µg/L)		(µg/L)			(µg/L)	(µg/L)	(µg/L)
DI	SSOLVED IRON		0	0	0	0		NA	NA	NA
	MANGANESE		0	0	0	0		NA	NA	NA
	ANTIMONY		0	0	0	0		1100	1100	7196.954
	ARSENIC		0	0	0	0		340	340	2224.513
			Dissolved	WQC.	Chemical tra	anslator	of 1	applied.		
	CADMIUM		0	0	0	0		1.993	2.11	13.804
			Dissolved	WQC.	Chemical tra	inslator	of 0.	944 applied.		
	LEAD		0	0	0	0		63.823	80.526	526.856
			Dissolved	WQC.	Chemical tra	enslator	of 0.	793 applied.		
	SELENIUM		0	0	0	0		NA	NA	NA
HEXAC	CHLOROBUTA-DI	ENE	0	0	0	0		10	10	65.427
					CFC					
7-10:	CCT (min)	720	PMF	0.1	Analysis	pН	7	Analysis	Hardness	88.382
			Stream	Stream		Fate		WQC	WQ	WLA
	Parameter		Conc. (µg/L)	CV	Conc. (µg/L)	Coe	f	(µg/L)	Obj (µg/L)	(µg/L)
DI	SSOLVED IRON		0	0	0	0		NA	NΑ	NA
1	MANGANESE		0	0	0	0		NA	NA	NA
	ANTIMONY		0	0	0	0		220	220	12413.91
	ARSENIC		0	0	0	0		150	150	8464.028
			Dissolved	WQC.	Chemical tra	anslator	of 1	applied.		
	CADMIUM		0	0	0	0		0.226	0.247	13.935
			Dissolved	WQC.	Chemical tra	inslator	of 0.	914 applied.		
	LEAD		0	0	0	0		2.199	2.719	153.41
			Dissolved	WQC.	Chemical tra	nslator	of 0.	809 applied.		
	SELENIUM		0	0	0	0		4.6	4.989	281.522
			Dissolved	WQC.	Chemical tra	anslator	of 0.	922 applied.		
HEXAC	HLOROBUTA-DIE	ENE	0	0	0	0		2	2	112.854
					тнн					
Q7-10:	CCT (min)	720	PMF	0.1	Analysis	в рН	NΑ	Analysis	Hardness	NA
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	_									

RMI

Name

Permit Number

PENTOXSD Analysis Results

Wasteload Allocations

15.75	Cheswick	IMP 603						
	Parameter	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)
	DISSOLVED IRON	0	0	0	0	300	300	16928.06
	MANGANESE	0	0	0	0	1000	1000	56426.86
	ANTIMONY	0	0	0	0	5.6	5.6	315.99
	ARSENIC	0	0	0	0	10	10	564.269
	CADMIUM	0	0	0	0	NA	NA	NA
	LEAD	0	0	0	0	NA	NA	NA
	SELENIUM	0	0	0	0	NA	NA	NA
HEXA	CHLOROBUTA-DIEN	E 0	0	0	0	NA	NA	NA
			c	RL				
Qh:	CCT (min)	720 PM	F 0.1					
Qh:	CCT (min) Parameter	Stream Conc	Stream CV	Trib Conc	Fate Coef	WQC	WQ Obj	WLA
	Parameter	Stream Conc (µg/L)	Stream CV	Conc (µg/L)	Coef	(µg/L)	Obj (µg/L)	(µg/L)
		Stream Conc (µg/L)	Stream	Conc			Obj	
HEXA	Parameter	Stream Conc (µg/L)	Stream CV	Conc (µg/L)	Coef	(µg/L)	Obj (µg/L)	(µg/L)
HEXA	Parameter	Stream Conc (µg/L)	Stream CV	Conc (µg/L)	Coef 0	(μg/L) 0.44	Obj (µg/L) 0.44	(μg/L) 67.211
HEXA	Parameter ACHLOROBUTA-DIEN	Stream Conc (µg/L) E 0	Stream CV 0	Conc (µg/L) 0	Coef 0 0	(μg/L) 0.44 NA	Obj (µg/L) 0.44 NA	(μg/L) 67.211 NA
HEXA	Parameter ACHLOROBUTA-DIEN DISSOLVED IRON MANGANESE	Stream Conc (µg/L) E 0 0	Stream CV 0 0	Conc (μg/L) 0 0	0 0 0	(µg/L) 0.44 NA NA	Obj (µg/L) 0.44 NA NA	(μg/L) 67.211 NA NA
HEXA	Parameter ACHLOROBUTA-DIEN DISSOLVED IRON MANGANESE ANTIMONY	Stream Conc (µg/L) E 0 0	Stream CV 0 0 0	Conc (μg/L) 0 0 0	0 0 0	(μg/L) 0.44 NA NA NA	Obj (µg/L) 0.44 NA NA	(μg/L) 67.211 NA NA NA
HEXA	Parameter ACHLOROBUTA-DIEN DISSOLVED IRON MANGANESE ANTIMONY ARSENIC	Stream Conc (µg/L) E 0 0 0	Stream CV 0 0 0 0 0	Conc (µg/L) 0 0 0 0	0 0 0 0 0 0	(µg/L) 0.44 NA NA NA NA	Obj (µg/L) 0.44 NA NA NA	(μg/L) 67.211 NA NA NA NA

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Recommended Effluent Limitations

SWP Basin	Stream Code:		Stream Name:
18A	42122		ALLEGHENY RIVER
RMI	Name	Permit Number	Disc Flow (mgd)
15.75	Cheswick	IMP 603	3.2200

	Effluent Limit		Max. Daily	Most Stringent			
Parameter	(µg/L)	Governing Criterion	Limit (µg/L)	WQBEL (µg/L)	WQBEL Criterion		
ANTIMONY	315.99	THH	492.996	315.99	THH		
ARSENIC	564.269	THH	880.35	564.269	THH		
CADMIUM	8.848	AFC	13.804	8.848	AFC		
DISSOLVED IRON	16928.06	THH	26410.49	16928.06	THH		
HEXACHLOROBUTA-DIENE	41.936	AFC	65.427	41.936	AFC		
LEAD	153.41	CFC	239.344	153.41	CFC		
MANGANESE	56426.86	THH	88034.97	56426.86	THH		
SELENIUM	281.522	CFC	439.22	281.522	CFC		

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NPDES Permit Fact Sheet Cheswick Generating Station NPDES Permit No. PA0001627

Outfall 004

TOXICS SCREENING ANALYSIS WATER QUALITY POLLUTANTS OF CONCERN VERSION 2.4

Facility:	Cheswick		NPDES Permit No.:	PA0001627	Outfall:	004
Analysis Hard	dness (mg/L):	87	Discharge Flow (MGD):	0.75	Analysis pH (SU):	7

	Analysis Hardness (mg/L): 87			Discharge Flow (N	(GD): 0.75	•	ysis ph (SU): 7
		M	aximum Concentration in	Most Stringent	Candidate for	Most Stringent	Screening
	Parameter		pplication or DMRs (µg/L)	Criterion (µg/L)	PENTOXSD Modeling?	WQBEL (µg/L)	Recommendation
_	Total Dissolved Solids	L C	286	500000	No	WGDEE (pg/E)	recommendation
0	Chloride			250000			
2	Bromide	<	100	Ν̈́A	No (Value < QL)		
G	Sulfate						
	Fluoride			2000			
	Total Aluminum		160	750	No		
	Total Antimony	<	10	56	Yes	1338.21	No Limits/Monitoring
	Total Arsenic	<	10	10	Yes	2389.66	No Limits/Monitoring
	Total Barium	┖	40	2400	No		
	Total Beryllium	╙	0.5	N/A	No		
	Total Boron	$ldsymbol{ldsymbol{ldsymbol{eta}}}$	73.6	1600	No		
	Total Cadmium	<	1	0.244	Yes	30 51	No Limits/Monitoring
	Total Chromium	⊢		N/A			
	Hexavalent Chromium	<	2	10.4	No		
	Total Cobalt	<	2	19	No		
2		<	5	8 3 N/A	No (Value < OL)		
Group	Total Cyanide Total Iron	<	5 576	N/A 1500	No (Value < QL) No		
G	Dissolved Iron		59	300	No		
	Total Lead	<	10	2.7	Yes	639.82	No Limits/Monitoring
	Total Manganese		1540	1000	Yes	238966	No Limits/Monitoring
	Total Mercury	<	0 005	0.05	No (Value < QL)		
	Total Molybdenum		66	N/A	No		
	Total Nickel		5	46.4	No		
	Total Phenols (Phenolics)	<	10	5	Yes		
	Total Selenium		2.3	50	No		
	Total Silver	<	2	30	No		
	Total Thallium	<	10	0.24	Yes	57 35	No Limits/Monitoring
_	Total Zinc	_	8.5	106.5	No No (Value 4 OL)		
	Acrolein Acrylamide	<	2	0.07	No (Value < QL)		
	Acrylonitrile	<	0.5	0.051	No (Value < QL)		
	Benzene	<	0.2	12	No (Value < QL)		
	Bromoform	<	0.2	43	No (Value < QL)		
	Carbon Tetrachloride	<	0.2	0.23	No (Value < QL)		
	Chlorobenzene	<	0.2	130	No (Value < QL)		
	Chlorodibromomethane	<	0.4	0.4	No (Value < QL)		
	Chloroethane	<	0.2	N/A	No (Value < QL)		
	2-Chloroethyl Vinyl Ether	<	0.5	3500	No (Value < QL)		
	Chloroform	<	0.2	5.7	No (Value < QL)		
	Dichlorobromomethane	<	0.2	0.55	No (Value < QL)		
m	1,1-Dichloroethane	<	0.2 0.2	N/A 0.38	No (Value < QL) No (Value < QL)		
9	1,1-Dichloroethylene	<	0.2	33	No (Value < QL)		
9	1,1-Dichloropropane	<	0.2	2200	No (Value < QL)		
	1,3-Dichloropropylene	<	0.2	0.34	No (Value < QL)		
	Ethylbenzene	<	0.2	530	No (Value < QL)		
	Methyl Bromide	<	0.5	47	No (Value < QL)		
	Methyl Chloride	<	0.2	5500	No (Value < QL)		
	Methylene Chloride	<	0.2	46	No (Value < QL)		
	1,1,2,2-Tetrachloroethane	<	0.2	0.17	No (Value < QL)		
	Tetrachloroethylene	<	0.2	0.69	No (Value < QL)		
	Toluene	<	0.2	330	No (Value < QL)		
	1,2-trans-Dichloroethylene	<	0.5 0.2	140	No (Value < QL)		
	1,1,1-Trichloroethane 1 1 2-Trichloroethane	<	0.5	610 0.59	No (Value < QL) No (Value < QL)		
	Trichloroethylene	<	0.5	2.5	No (Value < QL)		
	Vinyl Chloride	<	0.2	0.025	No (Value < QL)		
_	2-Chlorophenol	<	4.7	81	No (Value < QL)		
	2 4-Dichlorophenol	<	4.7	77	No (Value < QL)		
	2,4-Dimethylphenol	<	4.7	130	No (Value < QL)		
	4,6-Dinitro-o-Cresol	<	4.7	13	No (Value < QL)		
4	2,4-Dinitrophenol	<	4.7	69	No (Value < QL)		
	2-Nitrophenol	<	4.7	1600	No (Value < QL)		
	4-Nitrophenol	<	4.7	470	No (Value < QL)		
	p-Chloro-m-Cresol	<	4.7	30	No (Value < QL)		

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NPDES Permit Fact Sheet Cheswick Generating Station

NPDES Permit No. PA0001627

ı	Pentachlorophenol	<	0 28	0.27	No (Value < QL)	
ı	Phenol	٧	4.7	10400	No (Value < QL)	
L	2,4,6-Trichlorophenol	٧	4.7	1.4	No (Value < QL)	

PENTOXSD

N	loc	lel	ing	Inj	put	D	at	a

						Mod	eling In	put Dat	a					
Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)		Slope	PWS W			А	pply FC				
42122	15.75	734.80			0.00000		0.00			✓				
						5	Stream D	ata						
	LFY		eam Wi low Ra		Rch Width	Rch Depth \	Rch /elocity	Rch Trav Time	<u>Tributa</u> Hard	DΣ pH	<u>Strean</u> Hard	n pH	Analysis Hard p	ьН
	(cfsm)	(cfs) (c	cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)		(mg/L)	
Q7-10	0.1	2761	0	0	870	7	0	0	87	7	0	0	0	0
Qh		0	0	0	0	0	0	0	100	7	0	0	0	0
						Di	scharge [Data						
N	lame	Permit Number	Existing Disc Flow	[mitted Disc Tow	Design Disc Flow	Reserve Factor	AFC PMF	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
			(mgd)		ngd)	(mgd)						(mg/L)		
Che	eswick	004	0.75		0	0	0	0.01	0.1	0.1	0.1	165	7	
						Pa	rameter D)ata						
F	Parameter N	lame	Dis Cor (µg/	nc	Trib Conc (µg/L)	Disc Daily CV	Disc Hourl CV	y Con	c CV	Fate Coe		Crit Mod	Max Disc Conc (µg/L)	
ALUMINU	M		1E-		0	0.5	0.5		-,	0	0	1	0	
ANTIMON	IY		1E-	+11	0	0.5	0.5	. 0	0	0	0	1	0	
ARSENIC			1E-	+11	0	0.5	0.5	. 0	0	0	0	1	0	
BARIUM			1E+	+11	0	0.5	0.5	0	0	0	0	1	0	
BIS(2-ETH	-IYLHEXYL) PHTHALAT	E 1E-	+08	0	0.5	0.5	0	0	0	0	1	0	
BORON			1E+	+11	0	0.5			0	0	0	1	0	
CADMIUN	И		1E-	+11	0	0.5			0	0	0	1	0	
CHLORO	FORM		1E-	+11	0	0.5		_	0	0	0	1	0	
CHROMIL	JM, VI		1E-		0	0.5			0	0	0	1	0	
COBALT			1E-		0	0.5		_	0	0	0	1	0	
COPPER			1E-		0	0.5		_	0	0	0	1	0	
CYANIDE			1E-		0	0.5			0	0	0	1	0	
DISSOLVI		DIENE	1000			0.5		_	0	0	0	1	0	
HEXACHL LEAD	.OROBUTA	-DIENE	1E-		0	0.5 0.5		_	0	0	0	1	0	
LITHIUM			-	-	0	0.5		_	0	0	0	1	0	
MANGAN	ESE		1E+		0	0.5			0	0	0	1	0	
MERCUR'			1E-	-	0	0.5		_	0	0	0	1	0	
NICKEL			1E-		0	0.5			0	0	0	1	0	
	SODI-PHEN	IYI AMINE	1E-		0	0.5			0	0	0	1	0	
PHENANT		David VL	1E-		0	0.5		_	0	0	0	1	0	
	CS (PWS)		1E-		0	0.5			0	0	0	1	0	
SELENIUM			1E-		0	0.5		_	0	0	0	1	0	
SILVER			1E-		0	0.5			0	0	0	1	0	
THALLIUN	И		1E-		0	0.5			0	0	0	1	0	
			1E-		0	0.5		_	0	0	0		0	

ZINC				1E+1	1 0	0.9	5 0.5	5 0	0	0	0	1	0	
Stream Code	RMI	Elevation (ft)		rainage Area sq mi)	Slope	PWS \			Α	pply FC				
42122	15.00	734			0.00000		0.00			✓				
							Stream D	ata						
	LFY	Trib Flow	Strean Flow		Rch Width	Rch Depth	Rch Velocity	Rch Trav Time	<u>Tributa</u> Hard	pH	Strear Hard		<u>Analys</u> Hard	sis P
	(cfsm)	(cfs)	(cfs)		(ft)	(ft)	(fps)	(days)	(mg/L)		(mg/L)	((mg/L)	
Q7-10	0.1	0		0 (0 0	0	0	0	87	7	0	0	0	Τ
Qh		0		0 0	0 0	0	0	0	100	7	0	0	0	
_						D	ischarge	Data						
Na	ame	Perm Numb	ber	xisting F Disc Flow	Permitted Disc Flow		Reserve	AFC	CFC PMF	THH PMF	CRL PMF	Disc Hard	Disc pH	
			((mgd)	(mgd)	(mgd)	_	_	_	_	_	(mg/L)		
				0	0	0	0	0	0	0	0	100	7	
Р	arameter I	Name		Disc Conc	Trib Conc	Disc	Hour	Stea ly Cor		Fate Coe		Crit Mod	Max Disc Conc	
				(µg/L)				(µg					(µg/L)	
ALUMINU! ANTIMON				0	0	0.9				0		1	0	
ARSENIC				0	0	0.9				0		1	0	
BARIUM				0	0	0.9	5 0.9	5 0	0	0	0	1	0	
BIS(2-ETH	YLHEXYL) PHTHA	LATE	0	0	0.5	5 0.5	5 0	0	0	0	1	0	
BORON				0	0	0.5	5 0.5	5 0	0	0	0	1	0	
CADMIUM				0	0	0.9				0		1	0	
CHLOROF				0	0	0.9				0		1	0	
CHROMIU	M, VI			0	0	0.9				0		1	0	
COBALT				0	0	0.9				0		1	0	
CYANIDE,	FREE			0	0	0.5				0		1	0	
DISSOLVE				0	0	0.5				0		1	0	
HEXACHL		A-DIENE		0	0	0.5			_	0		1	0	
LEAD				0	0	0.5			0	0		1	0	
LITHIUM				0	0	0.9	5 0.5	5 0	0	0	0	1	0	
MANGANE	SE			0	0	0.9				0		1	0	
MERCURY	^			0	0	0.5				0		1	0	
NICKEL			_	0	0	0.5				0		1	0	
N-NITROS		NYLAMIN	E	0	0	0.9				0		1	0	
PHENANT				0	0	0.9				0		1	0	
PHENOLIC	-			0	0	0.9				0		1	0	
SILVER	п			0	0	0.9				0		1	0	
THALLIUM	1			0	0	0.9				0		1	0	
TOTAL IR				0	0	0.5				0		1	0	
				~	_	J.,	- 2.1				_			

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PENTOXSD Analysis Results Hydrodynamics

S	WP Basir	1	Stream	n Code:			Stream	n Name			
	18A		42	122			ALLEGH	ENY RIV	ER.		
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	CMT (min)
					Q7-	10 Hy	drodyna	mics			
15.750	2761	0	2761	1.16024	0.0002	7	870	124.29	0.4536	0.1011	1000+
15.000	2766	0	2766	NA	0	0	0	0	0	0	NA
					Q	h Hydr	odynan	nics			
15.750	7559.3	0	7559.3	1.16024	0.0002	10.902	870	79.801	0.7971	0.0575	1000+
15.000	7571.3	0	7571.3	NA	0	0	0	0	0	0	NA

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Wasteload Allocations

RMI	Name	Permit	Number						
15.75	Cheswick	0	04						
					AFC				
Q7-1	10: CCT (m	in) 1	5 PMF	0.009	Analysis	рН	7 Analysis	Hardness	90.145
	Parameter		Stream	Stream	n Trib Conc	Fate Coef	WQC	WQ Obj	WLA
	Parameter		(µg/L)	Cv	(µg/L)	Coei	(µg/L)	(µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	1100	1100	27276.26
	ARSENIC		0	0	0	0	340	340	8430.842
			Dissolved	WQC.	Chemical tra	anslator	of 1 applied.		
	CADMIUM		0	0	0	0	1.82	1.92	47.601
			Dissolved	WQC.	Chemical tra	anslator	of 0.948 applied.		
	LEAD		0	0	0	0	57.673	71.544	1774.052
			Dissolved	WQC.	Chemical tra	anslator	of 0.806 applied.		
	SELENIUM		0	0	0	0	NA	NA	NA
	THALLIUM		0	0	0	0	65	65	1611.779
HEXA	ACHLOROBUTA-	DIENE	0	0	0	0	10	10	247.966
	MANGANESE		0	0	0	0	NA.	NA	NA
					CFC				
Q7-10:	CCT (mi	n) 720) PMF	0.1	Analysis	pН	7 Analysis	Hardness	87.326
	Parameter		Stream Conc.	Stream CV	Conc.	Fate Coef		WQ Obj	WLA
			(µg/L)		(µg/L)		(µg/L)	(µg/L)	(µg/L)
	ANTIMONY		0	0	0	0	220	220	52572.52
	ARSENIC		0	0	0	0	150	150	35844.89
			Dissolved	WQC.	Chemical tra	anslator	of 1 applied.		
	CADMIUM		0	0	0	0	0.224	0.245	58.492
			Dissolved	WQC.	Chemical tra	anslator	of 0.915 applied.		
	LEAD		0	0	0	0	2.171	2.677	639.822
			Dissolved	WQC.	Chemical tra	anslator	of 0.811 applied.		
	SELENIUM		0	0	0	0	4.6	4.989	1192.238
			Dissolved	WQC.	Chemical tra	anslator	of 0.922 applied.		
	THALLIUM		0	0	0	0	13	13	3106.558
HEXA	CHLOROBUTA-D	IENE	0	0	0	0	2	2	477.932
	MANGANESE		0	0	0	0	NA	NA	NA
					тнн				
Q7-10:	CCT (mi	n) 72	0 PMF	0.1	Analysi	s pH i	NA Analysis	Hardness	NA
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Wasteload Allocations

			waster	oau Allo	cauons			
RMI	Name Pe	rmit Number						
15.75	Cheswick	004						
	Parameter	Stream	CV	Trib Conc	Fate Coef	WQC	WQ Obj	WLA
		(µg/L)		(µg/L)		(µg/L)	(µg/L)	(µg/L)
	ANTIMONY	0	0	0	0	5.6	5.6	1338.209
	ARSENIC	0	0	0	0	10	10	2389.66
	CADMIUM	0	0	0	0	NA	NA	NA
	LEAD	0	0	0	0	NA	NA	NA
	SELENIUM	0	0	0	0	NA	NA	NA
	THALLIUM	0	0	0	0	0.24	0.24	57.352
HEXA	ACHLOROBUTA-DIEN	E 0	0	0	0	NA	NA	NA
	MANGANESE	0	0	0	0	1000	1000	238966
			(CRL				
Qh:	CCT (min)	720 PN	1 F 0.1					
	_	Stream			Fate	WQC	WQ	WLA
	Parameter	Conc (µg/L		Conc (µg/L)	Coef	(µg/L)	Obj (µg/L)	(µg/L)
	ANTIMONY	0	0	0	0	NA	NA	NA
	ARSENIC	0	0	0	0	NA	NA	NA
	CADMIUM	0	0	0	0	NA	NA	NA.
	LEAD	0	0	0	0	NA	NA	NA
	SELENIUM	0	0	0	0	NA	NA	NA
	THALLIUM	0	0	0	0	NA	NA	NA
HEX	ACHLOROBUTA-DIEN	NE 0	0	0	0	0.44	0.44	287.11
	MANGANESE	0	0	0	0	NA	NA	NA

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Recommended Effluent Limitations

SWP Basin	Stream Code:		Stream Name:
18A	42122		ALLEGHENY RIVE
RMI	Name	Permit Number	Disc Flow (mgd)
15.75	Cheswick	004	0.7500

	Effluent Limit		Max. Daily	Most Stringent			
Parameter	(µg/L)	Governing Criterion	Limit (µg/L)	WQBEL (µg/L)	WQBEL Criterion		
ANTIMONY	1338.209	THH	2087.822	1338.209	THH		
ARSENIC	2389.66	THH	3728.253	2389.66	THH		
CADMIUM	30.51	AFC	47.601	30.51	AFC		
HEXACHLOROBUTA-DIENE	158.936	AFC	247.966	158.936	AFC		
LEAD	639.822	CFC	998.225	639.822	CFC		
MANGANESE	238966	THH	372825.3	238966	THH		
SELENIUM	1192.238	CFC	1860.083	1192.238	CFC		
THALLIUM	57.352	THH	89.478	57.352	THH		

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NPDES Permit No. PA0001627

Attachment E – Effluent Limitation Guideline Limitation Justification

Submitted by NRG for Cheswick Generating Station

Applicability Date Extension Narrative

The renewal NPDES for the Cheswick Power Station should not include the new "BAT" limitations for the bottom ash transport water (BATW) and/or flue gas desulfurization (FGD) wastewaters.

The U.S. EPA promulgated a new rule related to the ELGs on November 3, 2015. This rule imposed a number of new effluent guidelines and related conditions, including new "Best Available Technology Economically Achievable" or "BAT" limitations for BATW and FGD wastewater. See, 40 C.F.R. §§ 423.13 (g) and (k). As originally promulgated, the new BATW and FGD limitations were to be achieved "by a date determined by the permitting authority that is as soon as possible beginning November 1, 2018, but no later than November 31, 2023." Id. The rule also defined the phrase "as soon as possible" to mean November 1, 2018, unless the permitting authority establishes a later date, after receiving information from the discharger, which reflects a consideration of the following factors:

- (1) Time to expeditiously plan (including to raise capital), design, procure, and install equipment to comply with the requirements of the rule.
- (2) Changes being made or planned at the plant in response to:
 - a. New source performance standards for greenhouse gases from new fossil fuel-fired electric generating units, under sections 111, 301, 302, and 307(d)(1)(C) of the Clean Air Act, as amended, 42 U.S.C. 7411, 7601, 7602, 7607(d)(1)(C);
 - b. Emission guidelines for greenhouse gases from existing fossil fuel-fired electric generating units, under sections 111, 301, 302, and 307(d) of the Clean Air Act, as amended, 42 U.S.C. 7411, 7601, 7602, 7607(d); or
 - c. Regulations that address the disposal of coal combustion residuals as solid waste, under sections 1006(b), 1008(a), 2002(a), 3001, 4004, and 4005(a) of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. 6906(b),
- (3) For FGD wastewater requirements only, an initial commissioning period for the treatment system to optimize the installed equipment.
- (4) Other factors as appropriate.

See, 40 C.F.R. § 423.11(t) (November 2015 version).

On March 24, 2017, an industry group representing steam electric power generators (the Utility Water Act Group (UWAG)) filed with the Administrator a petition for reconsideration of the 2015 Rule (EPA-HQ-OW-2009-0819-6478). On April 5, 2017, the U.S. Small Business Administration (SBA) filed a separate petition for reconsideration on much the same grounds. Those petitions stressed, among other issues, that (1) new information indicated that the 2015 rule's limits for FGD wastewater cannot be met by all facilities; (2) the 2015 rule partially relied on unreliable data in developing the "zero discharge" limit for BATW; and (3) the 2015 rule was the second most cost-ineffective ELG Rule ever and therefore deserved to be reconsidered.

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On April 11, 2017, the Administrator sent to each Governor and State permitting agency a letter notifying each of the petitions for reconsideration, reminding them that the ELG Rule applies only when implemented in an NPDES permit in accordance with applicability dates determined under the rule and encouraging them to make use of the flexibility that § 423.11(t) of the ELG Rule affords to consider "other factors" in selecting an appropriate applicability date. Then on April 12, 2017, Administrator Pruitt issued a letter granting the SBA and UWAG petitions and indicating that the Agency would (1) promptly issue a stay, pursuant to § 705 of the Administrative Procedure Act, of the ELG Rule's applicability dates; and (2) consider which portions of the ELG Rule warrant a remand and/or further rulemaking. On April 25, 2017, EPA issued a Federal Register notice staying the applicability dates for all new and more restrictive limits, including those for FGD wastewater and BATW (82 Fed. Reg. 19005).

On June 6, 2017, EPA solicited comment on whether it should postpone by rule the applicability dates that have not yet passed for some or all of the new, more restrictive ELG limits in order to "preserve the regulatory status quo ... while reconsideration is ongoing" and avoid "imminent planning and capital expenditures" that companies would otherwise be required to make in order to meet those applicability deadlines (82 Fed. Reg. 26017).

On August 11, 2017, EPA announced its intention to conduct further rulemaking to potentially revise the new, more stringent effluent limitations guidelines and pretreatment standards for existing facilities (PSES) established by the 2015 steam electric guidelines rule for two waste streams: FGD scrubber blowdown (FGD wastewater) (§ 423.13(g)(1)(i)) and BATW (§ 423.13(k)(1)(i)).

On September 18, 2017, EPA issued a final rule (Postponement Rule) postponing the near-term applicability dates for FGD wastewater and BATW from November 1, 2018, to November 1, 2020 (82 Fed. Reg. 43494). The rule became effective upon publication. EPA's stated purpose for the Postponement Rule is to authorize permit writers to select applicability dates that will avoid any expenditures to comply with the 2015 ELGs for FGD wastewater and BATW until EPA completes further rulemaking for those waste streams. The preamble accompanying the Postponement Rule indicates that EPA will conduct further rulemaking to revise the applicability dates if it has not completed its reconsideration of the FGD wastewater and BATW limits by November 1, 2020.

Achieving the central purpose of the Postponement Rule means that NPDES permit writers must use the November 1, 2020 deadline (the date by which EPA intends to complete the rulemaking) as the starting point, not the endpoint, for compliance expenditures. Determining what is "as soon as possible" by assuming that companies will continue their compliance expenditures during the three-year period EPA estimates it will need to complete further rulemaking is inconsistent with achieving the central purpose of the Postponement Rule.

In light of the acknowledged uncertainty associated with the guidelines, the Department should not include the new BAT limitations in the Cheswick NPDES permit renewal for the BATW and/or FGD wastewaters. Rather, a "re-opener" should be included so that the Department can modify the permit after the guideline issues are conclusively and finally resolved. Imposing the limits in the permit would serve no beneficial purpose, and instead could subject Cheswick Generating Station to stringent and unlawful limitations (e.g., because the limits were included, subsequently revised by EPA or further postponed, but no action was taken by the Department to modify them in the permit). This re-opener approach is consistent with all of the facts, the U.S. EPA September 18, 2017 rulemaking, and the informal guidance that we understand Region III of U.S. EPA has been issuing. Perhaps even more important, it is consistent with how we understand neighboring states are addressing the issue. To do otherwise would once again place Pennsylvania jobs and families at a competitive disadvantage, with no attendant environmental benefit.

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Alternatively, although Cheswick Generating Station does not believe that this is the appropriate course of action, the Department should at least defer all compliance with the new BAT limitations for the BATW and the FGD wastewaters until December 31, 2023 because:

- Cheswick is equipped with an effective wastewater treatment system for FGD wastewater that is discharged at Internal Monitoring Point (IMP 503) and complies with stringent water quality based effluent limitations for selenium, arsenic and mercury. Since October 2014 monthly average:
 - Selenium concentrations have been consistently less than 0.35 mg/l.
 - o Arsenic concentrations have been consistently less than 0.010 mg/l, and
 - o Mercury concentrations have been consistently less than 0.00025 mg/l.
- An applicability date sooner than December 31, 2023 will require Cheswick to incur compliance expenditures beginning as early as 2018 to initiate engineering work to evaluate biological treatment technologies. At this time, only one full scale biological system (i.e., GE AbMet) has the potential to comply with the 2015 rule's limits for selenium and nitrate/nitrite. As noted in industry petitions, new information was presented that indicated that the 2015 rule's limits for FGD wastewater cannot be met by all facilities using the GE AbMet System. As a result of this uncertainty in the effectiveness of selenium treatment, Cheswick anticipates the need to further evaluate whether the GE AbMet System or other equivalent biological system can, in fact, meet the 2015 rule's limits. This evaluation (e.g., pilot testing) could become unnecessary should US EPA increase or eliminate the 2015 FGD wastewater limits.
- The proposed effluent limitation for boron will require modifications to the operation of the FGD absorber system, coal supply, limestone supply, and/or Cheswick's FGD wastewater treatment system. To identify the most effective and economic alternatives for compliance, detailed engineering studies will be required. Potential changes to fuel and material supplies, the FGD absorber chemistry, and/or the FGD WWTP operations will then need to be assessed to determine how these changes would impact the existing physical/chemical WWTP with respect to arsenic, mercury, and selenium and any proposed FGD biological treatment system.
- An applicability date sooner than December 31, 2023, for the new BAT limitations for BATW will also require compliance expenditures. Cheswick has replaced the bottom ash transport system with a remote drag chain system (remote MDS) that can recycle BATW. However, under the new 2015 rules, Cheswick would need to further evaluate system chemistry and the need to tie the bottom ash recycle system to the FGD Scrubber for use as makeup water. Furthermore, EPA does not consider any activity that requires draining the majority of the water volume from a wet sluicing, closed-loop system containment vessel (e.g., bottom ash hopper, remote MDS, dewatering bin, settling tank, surge tank) a minor maintenance event. Therefore, significant costs may be incurred to capture BATW associated with equipment maintenance and leaks. Additionally, significant costs would be incurred upon station retirement and final decommissioning of the new BATW recycle system.

We suggest as an alternative that the Department include the following provision:

Cheswick Generating Station is required to continue to minimize the discharge of BATW through operation of the new remote MDS and to notify the Department of bypasses or shutdowns of the BATW recycle

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system. If the Steam Electric Power Generating Effluent Guidelines compliance dates or requirements for pollutants in BATW and/or FGD wastewater are further delayed or modified, the Cheswick shall comply with the ELGs as soon as possible, but no later than the final timeline established in 40 CFR 423.

GenOn appreciates the opportunity to provide this information for the Department's consideration, and we look forward to further discussions on these issues.

Tools and References Used to Develop Permit	
	WQM for Windows Model (see Attachment)
	PENTOXSD for Windows Model (see Attachment D)
	TRC Model Spreadsheet (see Attachment)
	Temperature Model Spreadsheet (see Attachment C)
	Toxics Screening Analysis Spreadsheet (see Attachment D)
	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
\boxtimes	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
	Pennsylvania CSO Policy, 385-2000-011, 9/08.
	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
	Design Stream Flows, 391-2000-023, 9/98.
	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
	SOP: New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications
	Other: